EMID0012054S0
A4

Service Manual

Electronic Organ

Supplement

REVITION

SX-G100A / SX-G100C / SX-G100W / SX-F100

Area
(M) U.S.A.
(EK) the United Kingdom
(EH) Belgium
(EZ) Germany
(XR) Australia

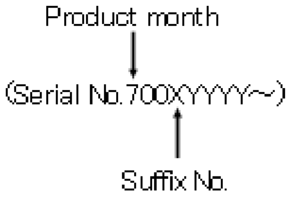
Change of Disk Drive Unit / (The disk drive unit has been replaced with a new type.)

This document is supplementary to the following Service Manuals.

⚠ WARNING
This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

1. Application of change

From JUL.,2000 producton and onward.(Serial No.700XYYYY)



Change of Suffix No.

Model No.	Area code	Previous Suffix No.	Actual Suffix No.
SX-G100A	M, EK, XR	A	B
SX-G100C	EH,	A	B
	EZ	B	C
SX-G100W	M	A	B
SX-F100	M	B	C

2. Replacement Part List

Ref. No.	Change of Parts No.		Part Name & Description	Re
	Original	Supplement		
CABINET PARTS				
	QAUG017AA	QAUG027AA	DISK DRIVE UNIT	CHANGE
	QEUGMSW06D	QEXGZA34015B	CONNECTOR WITH WIRE	CHANGE
	—	QMRG5164AA	CUSHION	ADDITIO
PRINTED CIRCUIT BOARED				
	SXPG229211	SXPG235611	FDC P.C.B.	CHANGE
INTEGRATED CIRCUIT				
IC15	QSIGCF100AM	QSIGCF100AM2	4M bit Program EP ROM	CHANGE
PROGRAM DISK				
	—	QUVG2006AA1	PROGRAM PATCH-UP FLOPPY DISK	ADDITIO

3. Service Guide

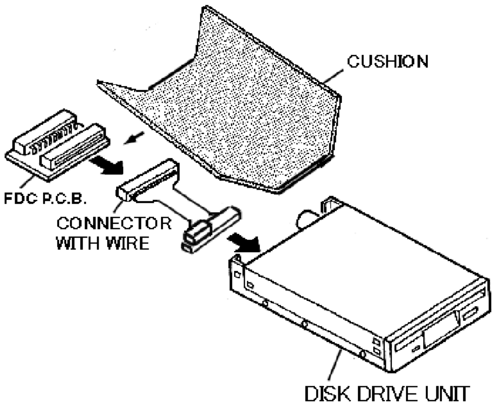
- The substitute FDD unit kit contains parts necessary for installing

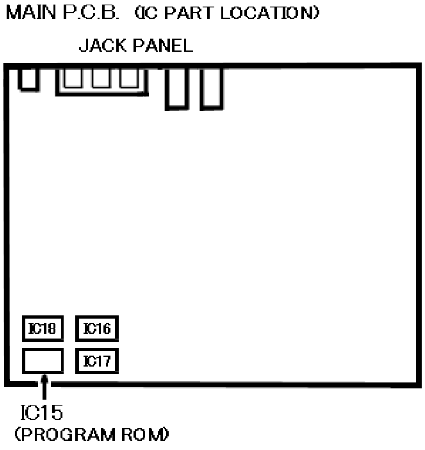
the new unit.

■ **DISK DRIVE KIT**

DISK DRIVE KIT	CONTENTS	P/S
/ RFKVSXF100	QAUG027AA:DISK DRIVE UNIT QEXGZA34015B:CONNECTOR WITH WIRE / QMRG5164AA:CUSHION / SXPG235611:FDC P.C.B. / QSIGCF100AM2:IC15 / QUVG2006AA1 :PROGRAM PATCH-UP FLOPPY DISK	1 / 1 / 1 / 1 / 1 / 1

4. Cabinet Part and Program ROM Location

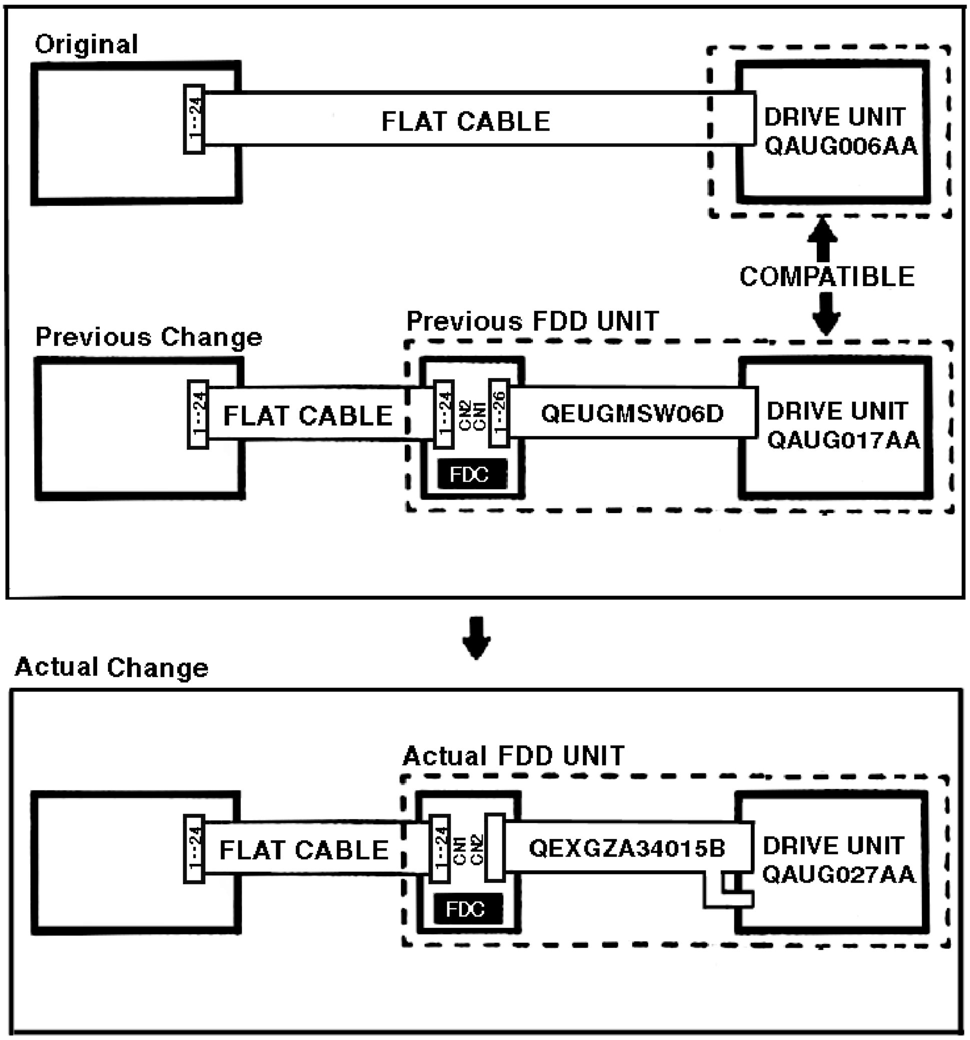

CUSHION
FDC P.C.B.
CONNECTOR WITH WIRE
DISK DRIVE UNIT


MAIN P.C.B. (IC PART LOCATION)
JACK PANEL
IC18
IC16
IC17
IC15
(PROGRAM ROM)

5. Circuit Modifications

In the previous circuit design change, QAUG017AA replaced QAUG006AA in the Drive Unit; but in this circuit design change, QAUG027AA is used. In the previous circuit design change, a convert circuit (FDC) was added for downloading the signal from the pin 26 connector to the pin 24 connector.The addition of a convert circuit assures compatibility with QAUG006AA. QAUG027AA uses the pin 34 and pin 4 connectors. For this reason, for the pin connections, SXPG235611 is used as a convert circuit, and the connection cable has also been changed. Furthermore, IC15 on the MAIN circuit has been upgraded to ensure compatibility with the previous circuit.

■POINT OF DIFFERENCE

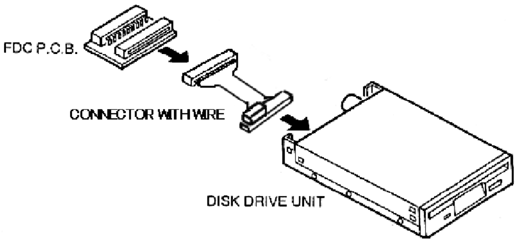

Original
1··24
FLAT CABLE
DRIVE UNIT
QAUG006AA
COMPATIBLE
Previous Change
Previous FDD UNIT
1··24
FLAT CABLE
1··24
CN2
CN1
1··26
QEUGMSW06D
DRIVE UNIT
QAUG017AA
FDC
Actual Change
Actual FDD UNIT
1··24
FLAT CABLE
1··24
CN1
CN2
QEXGZA34015B
DRIVE UNIT
QAUG027AA
FDC

6. Replacement Procedure

If a model incorporating the old drive requires a new FD drive unit, replace the old unit with the new unit as described here below.

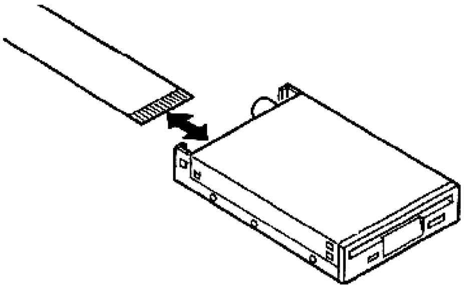
6.1. Assemble the new drive unit

- Plug the wire into the disk drive unit and the FDC P.C.B. conversion board port.


FDC P.C.B.
CONNECTOR WITH WIRE
DISK DRIVE UNIT

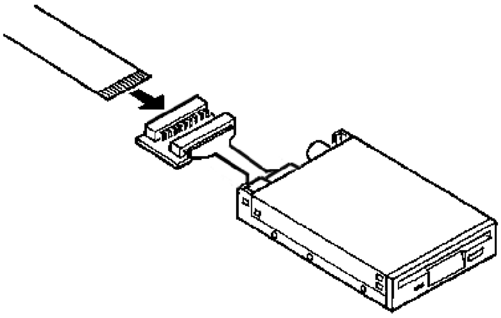
6.2. Remove the old disk drive unit

- Disconnect the flat cable from old disk drive unit (QAUG006AA or CN2 port on the FDC board of QUUG017AA compatible FDD unit) and remove the drive.



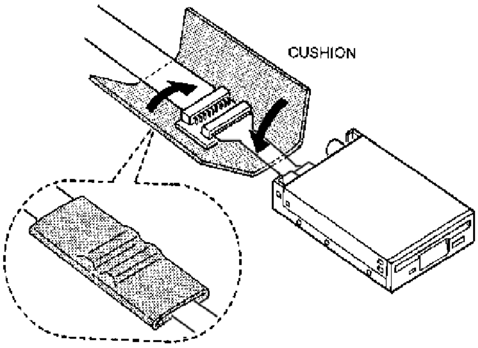
6.3. Install the new drive unit

- Plug the flat cable that was disconnected in step 6.2 into the CN1 port on the FDC board.



6.4. Attach the cushion

- Wrap the FDC board and flat cable with the cushion so that the edge are not seen.



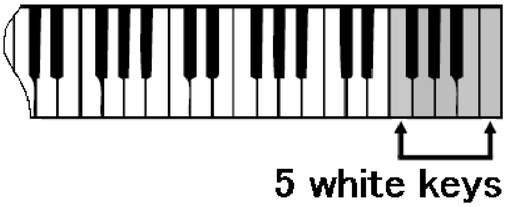
6.5. Replace the program ROM (IC15).

- Remove the old program ROM from MAIN P.C.B. and replace it with the new program ROM. (Refer to "Cabinet Part and Program ROM Location")

6.6. Modify the program for the flash memory.

Use the included PROGRAM PATCH-UP floppy disk to modify the program for the flash memory.

1. **Insert the floppy disk with the patch data into the floppy disk drive.**
2. **While depressing the 5 rightmost white keys on the lower keyboard, turn on the power to the instrument.**



3. **"Please Wait" is shown on the display, and program modification begins automatically. When the program modification is done, "Program Update Completed!" appears on the display. Turn the power off once and then on again to check that the instrument is operating properly.**

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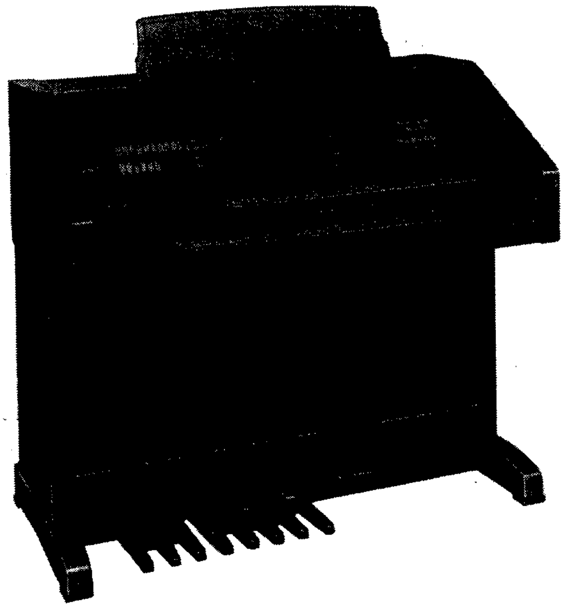
ORDER NO. EMID981698

Service Manual

Electronic Organ

SX-G100C

(EH), (EZ)



AREAS

(EH): Belgium
(EZ): Germany

The SX-G100C is the same as the SX-GA3 with some modifications. This Service Manual covers only those parts which have been modifide from the SX-GA3. For other parts, refer to the SX-GA3 Service Manual (Order No. EMID941513), it's Supplement-1/2/3/4 (EMID941542, EMID941545, EMID971635, EMID971670) and Technical Information (EMID971681). Please keep this manual with and use it in conjunction with the SX-GA3 Service Manual and Supplements.

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■ Specifications

KEYBOARD			UPPER KEYBOARD: 49 KEYS, LOWER KEYBOARD: 49 KEYS PEDAL KEYBOARD: 13 KEYS, FULL BASS PEDAL
SOUND GENERATOR			PCM
MAXIMUM NUMBER OF NOTES PRODUCED SIMULTANEOUSLY			ORGAN PART 64 NOTES/ALL OTHER PARTS 64 NOTES
SOUNDS	ORCHESTRAL CONDUCTOR (UPPER/LOWER)		ORGAN, SOUND 1, SOUND 2, SOUND 3
	SOUND GROUP (UPPER/LOWER)		200 SOUNDS GROUPS: PIANO, E PIANO/HARPSI, GUITAR, STRINGS/VOCAL, BRASS, FLUTE, MALLET, SPECIAL PERC, REED, SAX/CLARINET, SYNTH BRASS/LEAD, SYNTH PAD
	ORGAN	TYPE	10 TYPES GROUPS: ELECTRONIC TABS, DRAWBARS, PIPE ORGAN
		TAB	UPPER: 16', 5-1/3', 8', 4', 2-2/3', 2', 1-3/5', 1-1/3', 1', 4' PERC, 2-2/3' PERC LOWER: 8', 4', 2-2/3', 2', 1-1/3', 1'
	BASS PEDALS		63 SOUNDS GROUPS: ORGAN, CLASSICAL ORGAN, STANDARD, ORCHESTRAL, CONTEMPORARY
EFFECTS	TREMOLO		UPPER/LOWER ORGAN (SLOW/FAST)
	EFFECT		UPPER/LOWER ORGAN

Technics

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EFFECT	SUSTAIN	UPPER/LOWER ORGAN, UPPER/LOWER SOUND GROUP, BASS PEDALS
	DIGITAL EFFECT	UPPER/LOWER SOUND GROUP, BASS PEDALS
	DSP EFFECT	UPPER/LOWER SOUND GROUP
	BRILLIANCE	UPPER/LOWER SOUND GROUP, BASS PEDALS
	DIGITAL REVERB	○
TRANSPOSE		G-C-F#
RHYTHM		140 RHYTHMS GROUPS: BIG BAND/SWING, COUNTRY, MARCH/WALTZ, U.S.TRAD, SHOW TIME, ORGAN/NOVELTY, STANDARD LATIN, BALLAD/POP, TRAD DANCE, MODERN DANCE, JAZZ COMBO, PARTY/WORLD, ROCK/BLUES, POP LATIN
CONTROLS		MAIN VOLUME, BALANCE, U/L ORGAN TYPE, START/STOP, INTRO & ENDING, FILL IN 1, 2, VARIATION, COUNT INTRO, SYNCHRO & BREAK, TEMPO/PROGRAM
KEYBOARD PERCUSSION		○
BACKGROUND SOUND		BIRD, WAVE, RAIN, CHURCH BELL, APPLAUSE
AUTO PLAY CHORD		ONE FINGER, FINGERED, PIANIST, MEMORY, DYNAMIC ACCOMP
EASY PLAY STYLE		ONE TOUCH ORGAN, ORGAN STYLIST, ONE TOUCH PLAY/MUSIC STYLE SELECT, MUSIC STYLE ARRANGER
TECHNI-CHORD		○
PANEL MEMORY		SET, 1-16
SEQUENCER		16 TRACKS STORAGE CAPACITY: APPROX. 28,000 NOTES INPUT MODES: EASY RECORD, REALTIME RECORD, STEP RECORD FUNCTIONS: PUNCH RECORD, TRACK ASSIGN, EXPRESSION SETTING, AFTER TOUCH SETTING, EDIT (SONG CLEAR, TRACK CLEAR, TRACK MERGE, QUANTIZE, MEASURE ERASE, MEASURE COPY, MEASURE DELETE, MEASURE INSERT, VELOCITY CHANGE), PLAY, MEDLEY
COMPOSER		5 PARTS: ACCOMP 1, 2, 3, BASS, DRUMS STORAGE CAPACITY: APPROX. 8600 NOTES INPUT MODES: REALTIME RECORD, STEP RECORD FUNCTIONS: MODE SELECT, PATTERN COPY, LOAD SINGLE COMPOSER PATTERN MEMORY: 2 BANKS × 6
DISK DRIVE		3.5 inch DISK DRIVE FOR 2HD, 2DD FUNCTIONS: DISK SAVE, DISK LOAD, MIDI FILE SAVE, MIDI FILE LOAD, DISK FORMAT, LOAD SINGLE COMPOSER PATTERN, LOAD SINGLE SOUND MEMORY
SOUND		PART SETTING (PAN, SUSTAIN, REVERB, DSP EFFECT, BRILLIANCE, VOLUME, KEY SHIFT, TUNING, BEND RANGE, ASSIGN MODE), TECHNI-CHORD TYPE, TREMOLO SPEED, MASTER TUNING, REVERB SETTING, GLIDE SETTING
MEMORY & CONTROL		INITIAL, SWITCH ASSIGN, POWER ON MODE, PANEL MEMORY MODE, MUSIC STYLE ARRANGER MODE, OUTPUT SETTING
SOUND EDIT		EASY EDIT, GENERAL EDIT (OCTAVE SHIFT, VIBRATO, AUTOBEND & TRILL, MODULATION, DISTORTION, GLIDE, SUSTAIN MODE, AFTER TOUCH), TONE EDIT (TONE LEVEL, ENVELOPE, ENVELOPE KEY FOLLOW, FILTER), EFFECT EDIT MEMORY: 2 BANKS × 18 (UPPER/LOWER) 1 BANK × 16 (BASS)
MIDI		MIDI PRESET, BASIC CHANNEL, CONTROL MESSAGE, REALTIME MESSAGE, COMMON SETTING & PANEL MEMORY OUTPUT, OCTAVE SHIFT & LOCAL ON/OFF, INPUT SETTING, OUTPUT SETTING, SYSEX BULK DUMP, GENERAL MIDI
DISPLAY		LCD (320 × 240 DOTS) CONTRAST, EXIT, DISPLAY HOLD
HELP		○
DEMO		○
LIGHT		○
TERMINALS		PHONES 1, 2, SEPARATED LINE OUT (ORGAN, BASS DRUMS), LINE OUT (R/R+L, L), AUX IN (R/R+L, L), MIDI (IN, OUT, THRU), MIC
OUTPUT		320 W
SPEAKERS		30 cm × 2, 16 cm × 2, 6.5 cm × 2 MONITOR (13 cm × 6 cm) × 2
POWER REQUIREMENT		830 W AC230-240 V 50/60 Hz
DIMENSIONS (W × H × D)		124.6 cm × 128 cm × 68.3 cm (49-1/16" × 50-13/32" × 26-7/8")
NET WEIGHT WITHOUT BENCH		113 kg (249.1 lbs.)

•Specifications are subject to change without notice for further improvement.

Principal modifications from the SX-GA3

Wiring parts: Some wiring parts have been modified in accordance with the modification of the cabinet.

MAIN circuit: The programmed ROMs have been modified. The part number of the MAIN P.C.B. has been changed also.

ACP circuit: The part numbers of the coils and the capacitors have been changed. The part number of the ACP P.C.B. has been changed also.

For these modifications, please refer to "MODIFICATION" on page 9.

WARNING

To prevent the risk of fire, smoke, or electrical shock and to ensure safe operation, please be sure to follow the safety guidelines below.

1. At places where special caution is required, the necessary safety precautions are clearly labeled or printed, for example, on the cabinet, or on the part concerned. Please follow these safety precautions, and also those listed in the Owner's Manual.
2. Parts which have a ⚠ mark in the circuit diagram or in the parts list are essential for safety. When replacing these parts, be sure to use only the specified parts.
3. Use the specified types for internal wiring (double-insulated wiring, etc.).
4. When replacing parts on the AC primary side (power transformer, electric switch, electrical cord, noise-prevention condenser, etc.), wind the lead wire and secure it by soldering.
5. Do not let the wiring come into contact with heat-emitting devices (fuse resistor, radiator plate, etc.).
6. When replacing the wiring, make sure that it is not in contact with the unfinished or rough edge of a part.
7. When replacing the power cord (except for the plug-in type), tug it from various directions to confirm that it does not slip out of place.
8. Spacing
   If soldering was done on the AC primary circuit, confirm that the interval between the soldered terminals or between the terminal and surrounding metallic parts is at least the minimum required (between the primary circuit and the chassis: at least 6.5 mm; between primary circuit terminals: at least 4.0 mm; between primary circuit terminals and secondary circuit terminals: at least 6.5 mm).

CONTENTS

■ **SERVICE INFORMATIONS**

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MODIFICATIONS 9

■ **REPLACEMENT PARTS LIST**

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CABINET/CHASSIS PARTS 14
PACKING 16

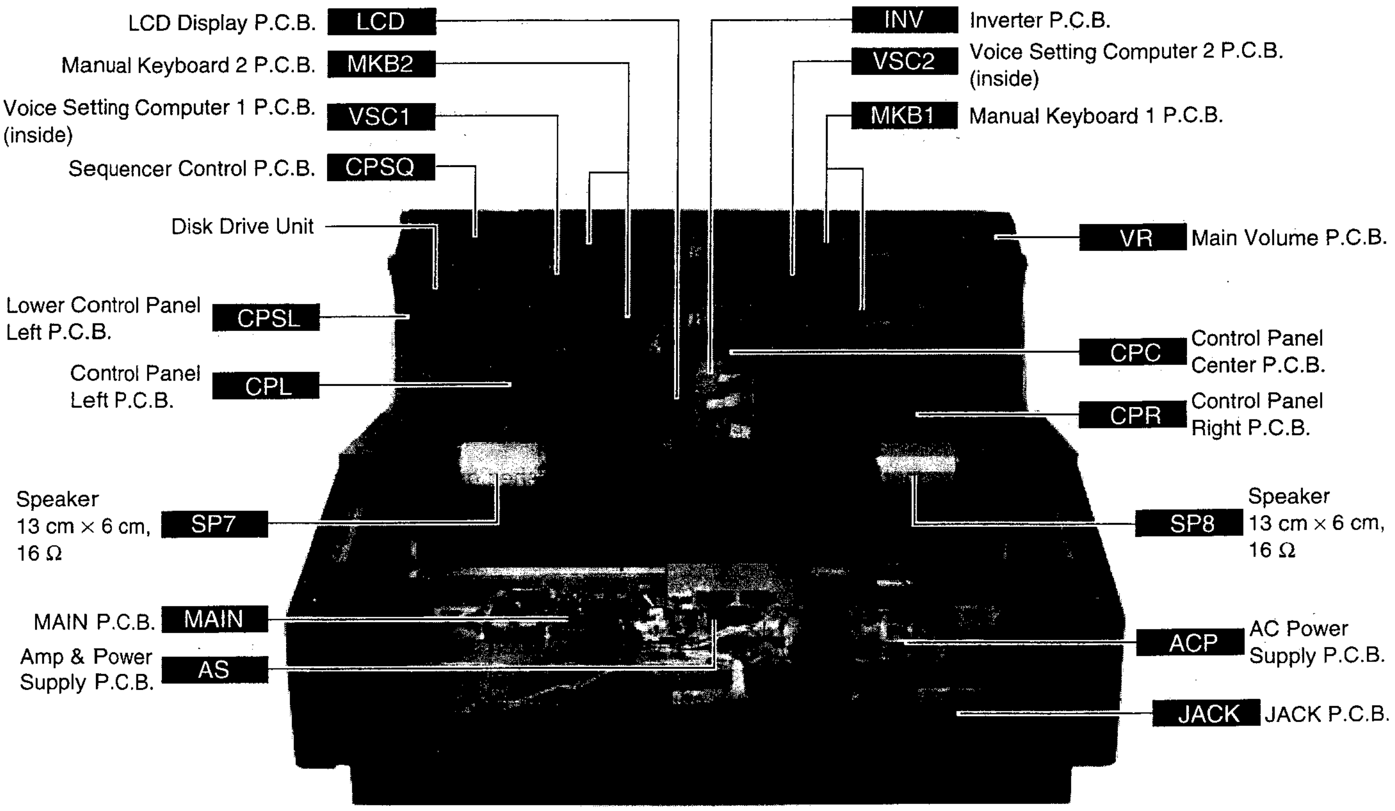
INITIAL SETTING

The following procedure resets all programmable settings, functions and memories to their initialized (factory-preset) status. Use this procedure if the buttons, keys, etc. malfunction, or when you wish to reset the memories and functions.

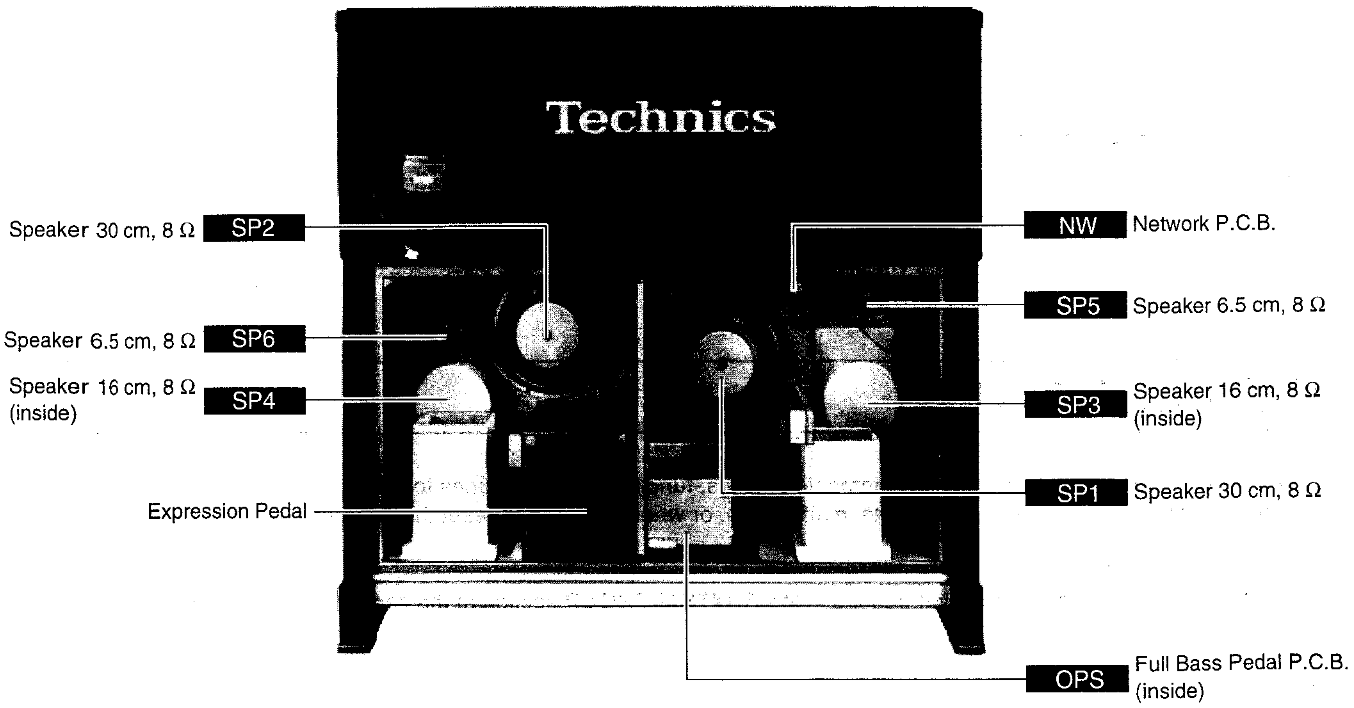
1. Turn off the **POWER** button.
2. While pressing the three lower left buttons in the **RHYTHM GROUP** section at the same time, turn the **POWER** button on again.

NOTE:
All stored data in the **SEQUENCER** and **COMPOSER** and other user settings will be deleted with this operation.

PARTS LOCATION


LCD Display P.C.B. LCD
Manual Keyboard 2 P.C.B. MKB2
Voice Setting Computer 1 P.C.B. (inside) VSC1
Sequencer Control P.C.B. CPSQ
Disk Drive Unit
Lower Control Panel Left P.C.B. CPSL
Control Panel Left P.C.B. CPL
Speaker 13 cm × 6 cm, 16 Ω SP7
MAIN P.C.B. MAIN
Amp & Power Supply P.C.B. AS
INV Inverter P.C.B.
VSC2 Voice Setting Computer 2 P.C.B. (inside)
MKB1 Manual Keyboard 1 P.C.B.
VR Main Volume P.C.B.
CPC Control Panel Center P.C.B.
CPR Control Panel Right P.C.B.
SP8 Speaker 13 cm × 6 cm, 16 Ω
ACP AC Power Supply P.C.B.
JACK JACK P.C.B.

[Photo-1]

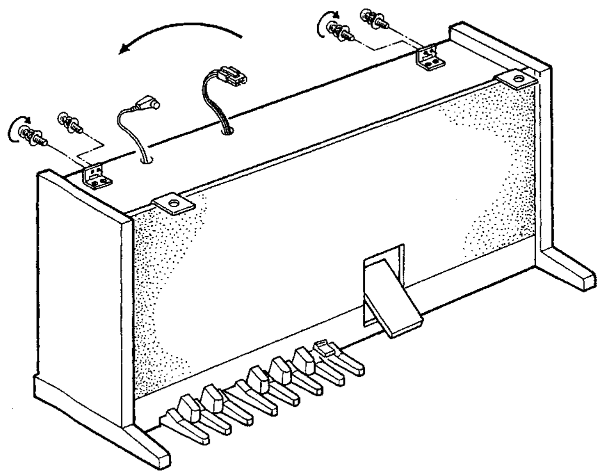

Technics
Speaker 30 cm, 8 Ω SP2
Speaker 6.5 cm, 8 Ω SP6
Speaker 16 cm, 8 Ω (inside) SP4
Expression Pedal
NW Network P.C.B.
SP5 Speaker 6.5 cm, 8 Ω
SP3 Speaker 16 cm, 8 Ω (inside)
SP1 Speaker 30 cm, 8 Ω
OPS Full Bass Pedal P.C.B. (inside)

[Photo-2]

HOW TO ASSEMBLE

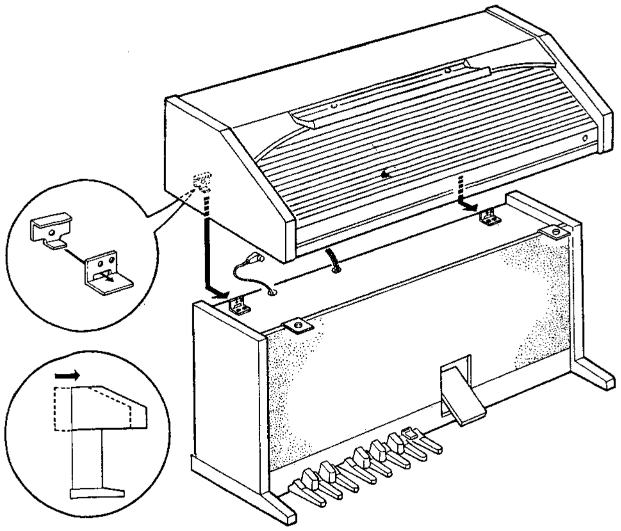
To prevent the upper cabinet from falling, secure it firmly with the screws.

1 Remove the four screws from the metal brackets on the lower unit. Lay the cords so they hang down over the back of the unit.



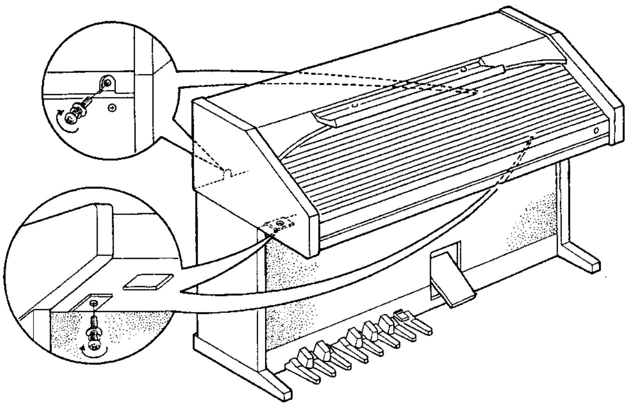
[Fig.1]

2 Position the upper cabinet on top of the lower unit, fitting the metal projections on the upper cabinet into the holes of the metal brackets on the lower unit.



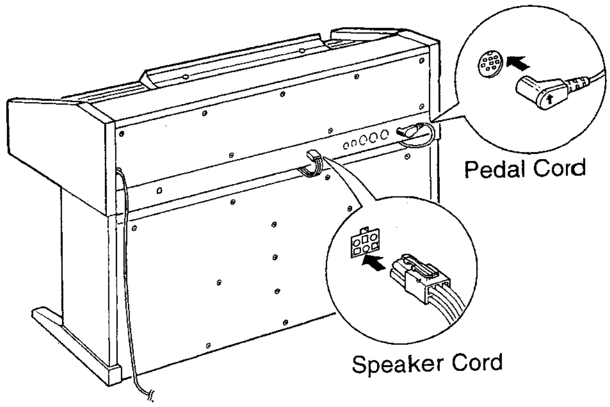
[Fig.2]

3 Use the four screws removed in step 1 to affix the upper cabinet to the lower unit. Screw them in loosely at first, making sure that they fit correctly in the holes. Then tighten them securely, ensuring that they are not crooked.



[Fig.3]

4 Connect the two cords from the lower unit to the terminals on the upper unit.

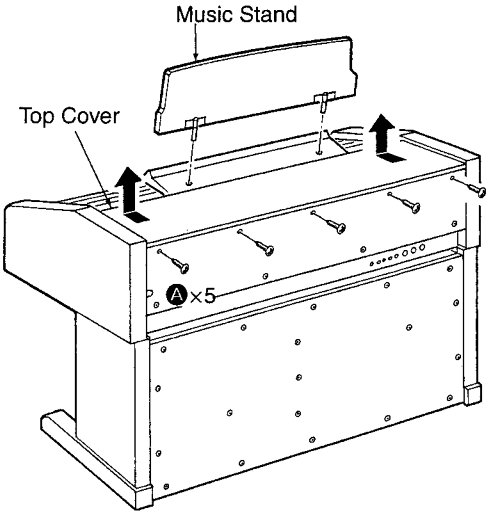


[Fig.4]

DISASSEMBLY INSTRUCTIONS

1 Removing the top cover

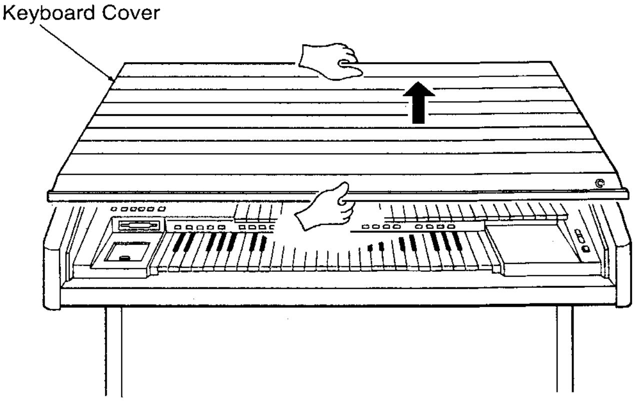
1. Remove the music stand by lifting it up.
2. Remove the top cover mounting screws (Ⓐ 5 pcs.).
3. Slide the top cover forward and lift up (as shown by the arrows).



[Fig.5]

2 Removing the keyboard cover

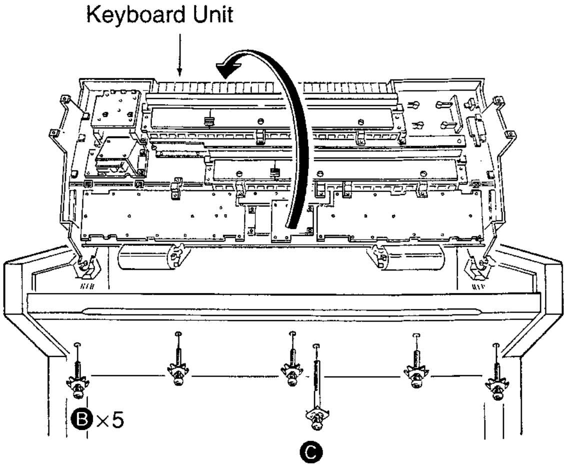
1. Remove the top cover (see step 1).
2. Remove the keyboard cover in its fully closed position.



[Fig.6]

3 Opening the control panel with keyboard unit

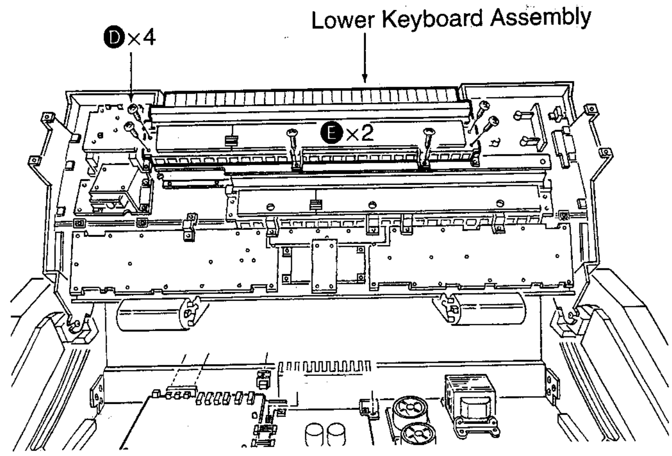
1. Remove both top cover and keyboard cover (see step 1 and 2).
2. Remove the control panel mounting screws located on the bottom of the cabinet (Ⓑ 5 pcs. and Ⓒ 1 pc.).
3. The control panel with keyboard unit can be opened upward.



[Fig.7]

4 Removing the lower keyboard assembly

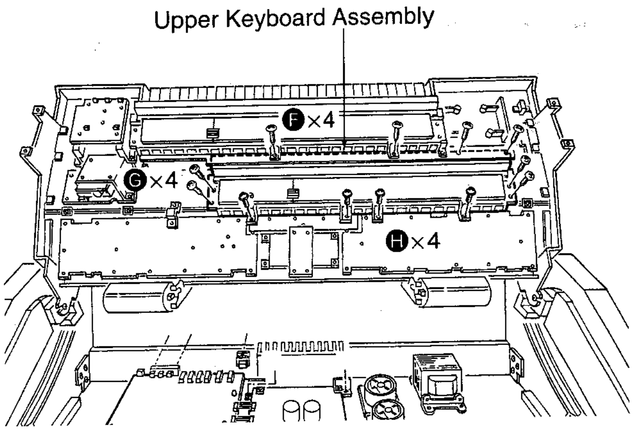
1. Open the control panel with keyboard unit (see step 3).
2. Remove the lower keyboard assembly mounting screws (Ⓓ 4 pcs. and Ⓔ 2 pcs.).
3. The lower keyboard assembly can be removed.



[Fig.8]

5 Removing the upper keyboard assembly

1. Open the control panel with keyboard unit (see step 3).
2. Remove the upper keyboard assembly mounting screws (Ⓕ 4 pcs., Ⓖ 4 pcs. and Ⓗ 4 pcs.).
3. The upper keyboard assembly can be removed.

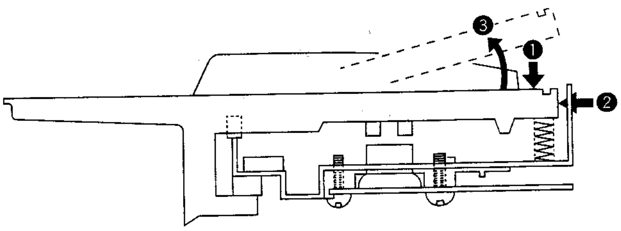


[Fig.9]

6 Removing the key(s)

1. Remove the keyboard assembly (see step 4 or 5).
2. Press downward on the rear of the key (❶).
3. While pressing downward on the rear of the key, push the key forward and release it from the chassis (❷).
4. Lift the key and remove it from the chassis (❸).

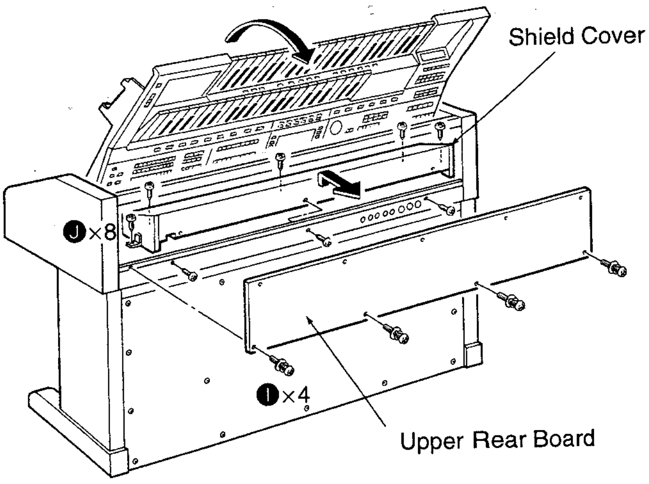
NOTE:
If a black key is to be replaced, it is necessary to remove the white key to either side of it first.



[Fig.10]

7 Removing the shield cover

1. Open the control panel with keyboard unit (see step 3).
2. Remove the upper rear board mounting screws (Ⓘ 4 pcs.).
3. Remove the shield cover mounting screws (Ⓙ 8 pcs.).
4. Remove the shield cover toward the rear.



[Fig.11]

8 Removing the MAIN, AS and ACP P.C.B.s

- Remove the shield cover (see step 7).

MAIN P.C.B.

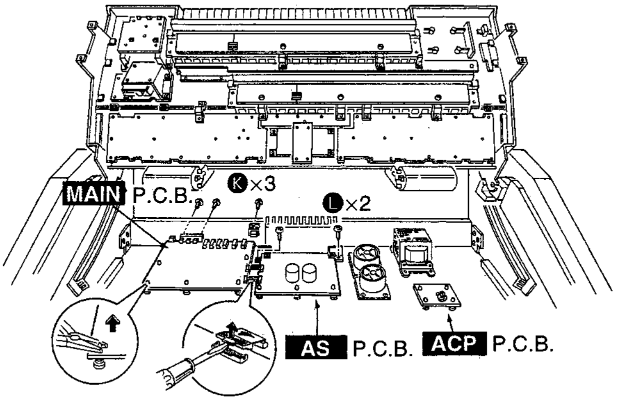
1. Remove the MAIN P.C.B. mounting screws (Ⓚ 3 pcs.).
2. Release the claws of 5 P.C.B. holders.

AS P.C.B.

1. Remove the AS P.C.B. mounting screws (Ⓛ 2 pcs.).
2. Release the claws of 3 P.C.B. holders.

ACP P.C.B.

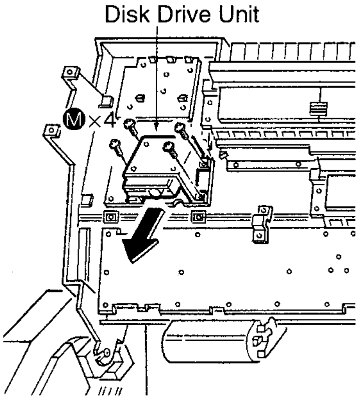
- Release the claws of 4 P.C.B. holders to remove the ACP P.C.B.



[Fig.12]

9 Removing the disk drive unit

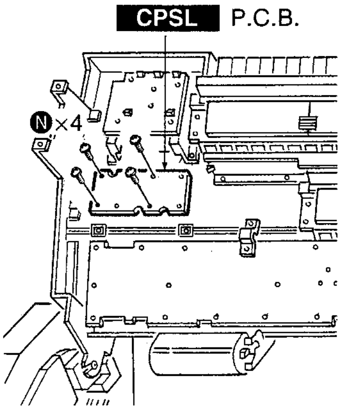
1. Open the control panel with keyboard unit (see step 3).
2. Remove the disk drive unit mounting screws (Ⓜ 4 pcs.).



[Fig.13]

10 Removing the CPSL P.C.B.

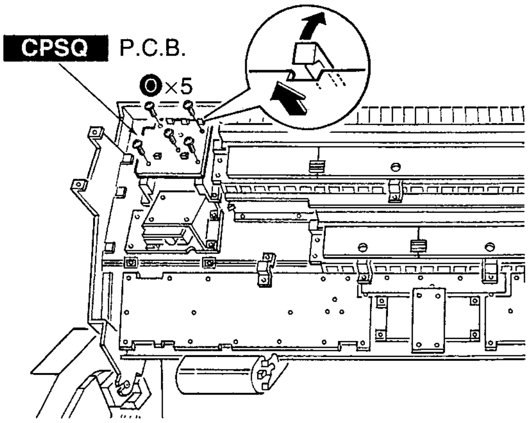
1. Open the control panel with keyboard unit (see step 3).
2. Remove the disk drive unit (see step 9).
3. Remove the CPSL P.C.B. mounting screws (Ⓝ 4 pcs.).



[Fig.14]

11 Removing the CPSQ P.C.B.

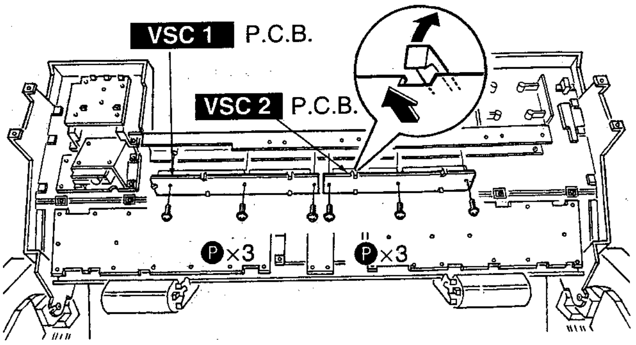
1. Open the control panel with keyboard unit (see step 3).
2. Remove the CPSQ P.C.B. mounting screws (Ⓞ 5 pcs.).
3. Release the claws of 5 P.C.B. holders.



[Fig.15]

12 Removing the VSC 1 and 2 P.C.B.s

1. Open the control panel with keyboard unit (see step 3).
2. Remove the upper keyboard assembly (see step 5).
3. Remove the VSC 1 and 2 P.C.B.s mounting screws (🅟 6 pcs.)
4. Release the claws of 9 P.C.B. holders.


VSC 1 P.C.B.
VSC 2 P.C.B.
🅟×3
🅟×3

[Fig.16]

13 Removing the speakers

- Remove the lower rear board mounting screws (🅠 19 pcs.).

30 cm speakers

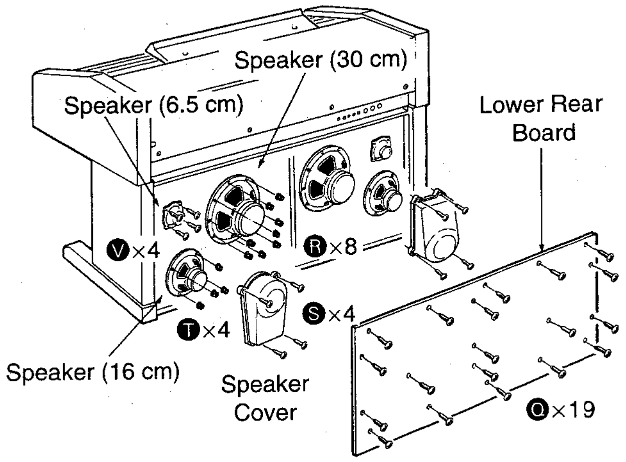
- Remove the 30 cm speaker mounting nuts (🅡 8 pcs.).

16 cm speakers

1. Remove the speaker cover mounting screws (🅢 4 pcs.).
2. Remove the 16 cm speaker mounting nuts (🅣 4 pcs.).

6.5 cm speakers

- Remove the 6.5 cm speaker mounting screws (🅥 4 pcs.).


Speaker (30 cm)
Speaker (6.5 cm)
Lower Rear Board
🅥×4
🅡×8
🅢×4
🅣×4
Speaker (16 cm)
Speaker Cover
🅠×19

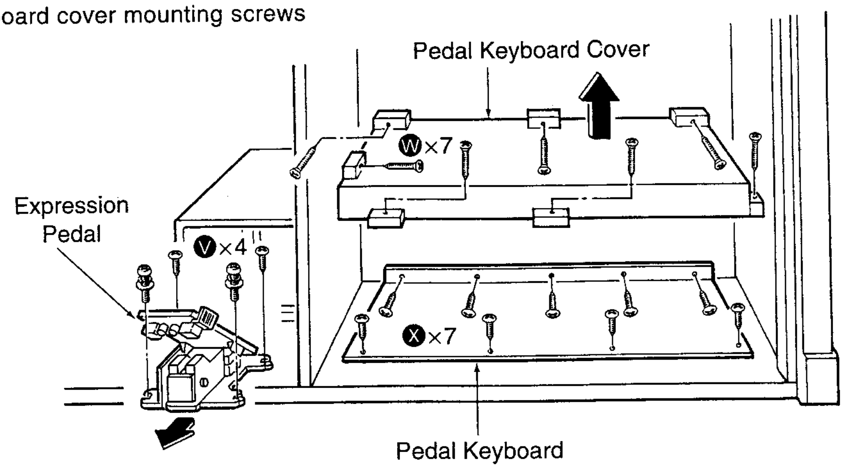
[Fig.17]

14 Removing the expression pedal

1. Remove the lower rear board (see step 13).
2. Remove the expression pedal mounting screws (🅥 4 pcs.).

15 Removing the pedal keyboard

1. Remove the lower rear board (see step 13).
2. Remove the pedal keyboard cover mounting screws (🅦 4 pcs.).
3. Remove the pedal keyboard cover.
4. Remove the pedal keyboard mounting screws (🅧 9 pcs.).
5. Tile the entire unit a little to toward to the rear very carefully for easier to take the pedal keyboard out from the bottom wood board.


Pedal Keyboard Cover
🅦×7
Expression Pedal
🅥×4
🅧×7
Pedal Keyboard

[Fig.18]

MODIFICATIONS

■ PRINTED CIRCUIT BOARD

	RTL	Parts No.		Description	P/S
		SX-GA3	**SX-G100C**		
	RTL	SXPG218311	**SXPG218351**	MAIN	1
○	RTL	SXPG218811D	**SXPG2188202D**	ACP	1

■ WIRING PARTS

	Ref. No.	Parts No.		Description	P/S
		SX-GA3	**SX-G100C**		
	W1	QEXGSS15095A	**QEXGSS15105A**	CONNECTOR WITH WIRE	1
	W6	QEXGST16160A	**QEXGST16170A**	CONNECTOR WITH WIRE	1
	W7	QEXGSA10060A	**QEXGSA10065A**	CONNECTOR WITH WIRE	1
○	W14	QEXGSS13105A	**QEXGSS13115A**	CONNECTOR WITH WIRE	1
	W15	QEXGEH04055B	**QEXGEH04065B**	CONNECTOR WITH WIRE	1
	W17	QEXGSS10065A	**QEXGSS10080A**	CONNECTOR WITH WIRE	1
	W24	QEXGEL06045B	**QEXGEL06055C**	CONNECTOR WITH WIRE	1
○	W25	QEXGVH08105C	**QEXGVH08135B**	CONNECTOR WITH WIRE	1

MAIN MAIN CIRCUIT

	Ref. No.	Parts No.		Description	P/S	
		SX-GA3	**SX-G100C**		SX-GA3	**SX-G100C**
				INTEGRATED CIRCUIT		
	IC15	QSIGCGA3AX (QSIGH3C04E31)	**QSIGCF100AM**	4M BIT PROGRAMMED EP ROM	1	**1**
	IC16	————	**QSIGCF100BM**	4M BIT PROGRAMMED EP ROM	0	**1**
	IC17	————	**QSIGCF100CM**	4M BIT PROGRAMMED EP ROM	0	**1**
	IC18	QSIG03C160F2	**QSIGX3C08001**	8M BIT MASK ROM	1	**1**

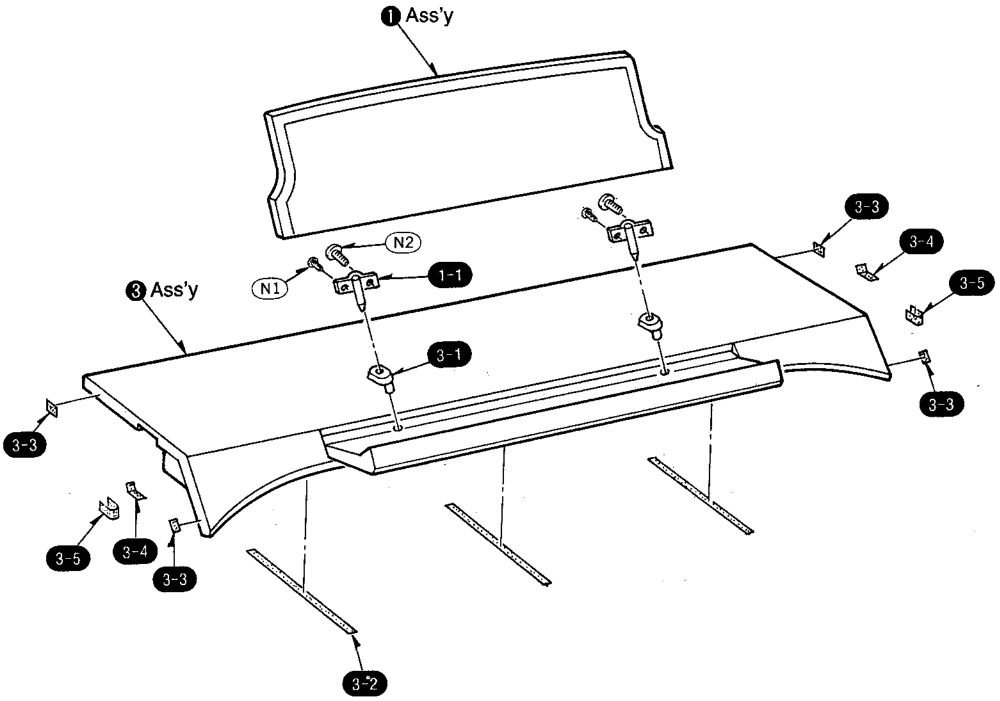
ACP AC POWER SUPPLY CIRCUIT

	Ref. No.	Parts No.		Description	P/S
		SX-GA3	**SX-G100C**		
			COIL		
	L1	SLTGLF4	**QLQGT2T100SA**	10μH ×2	1

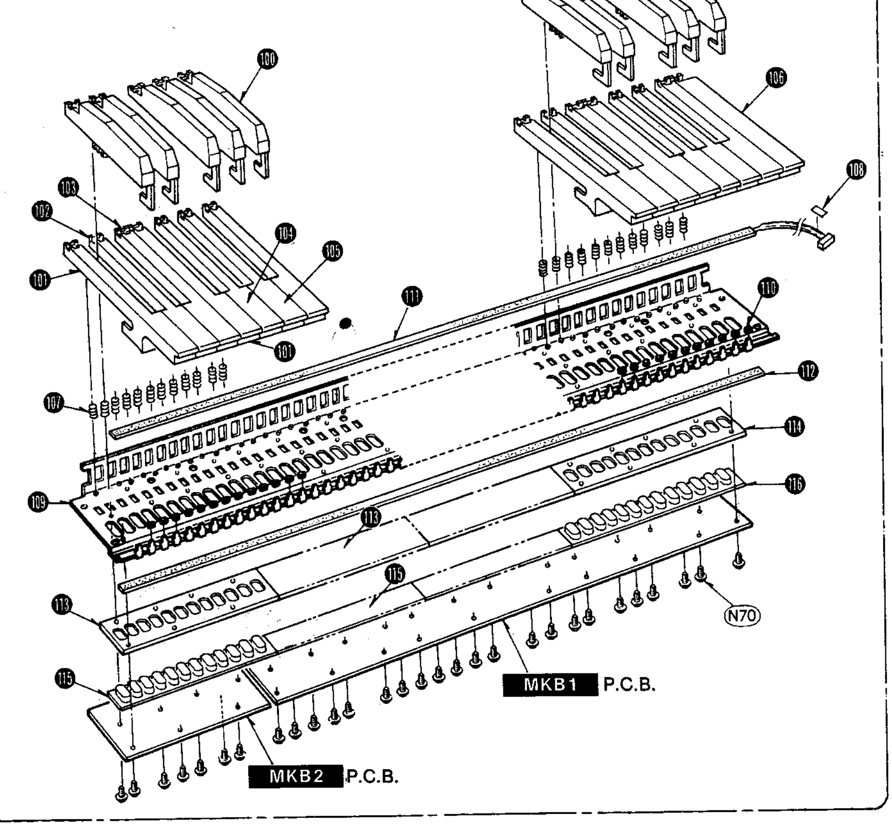
■ BUTTON

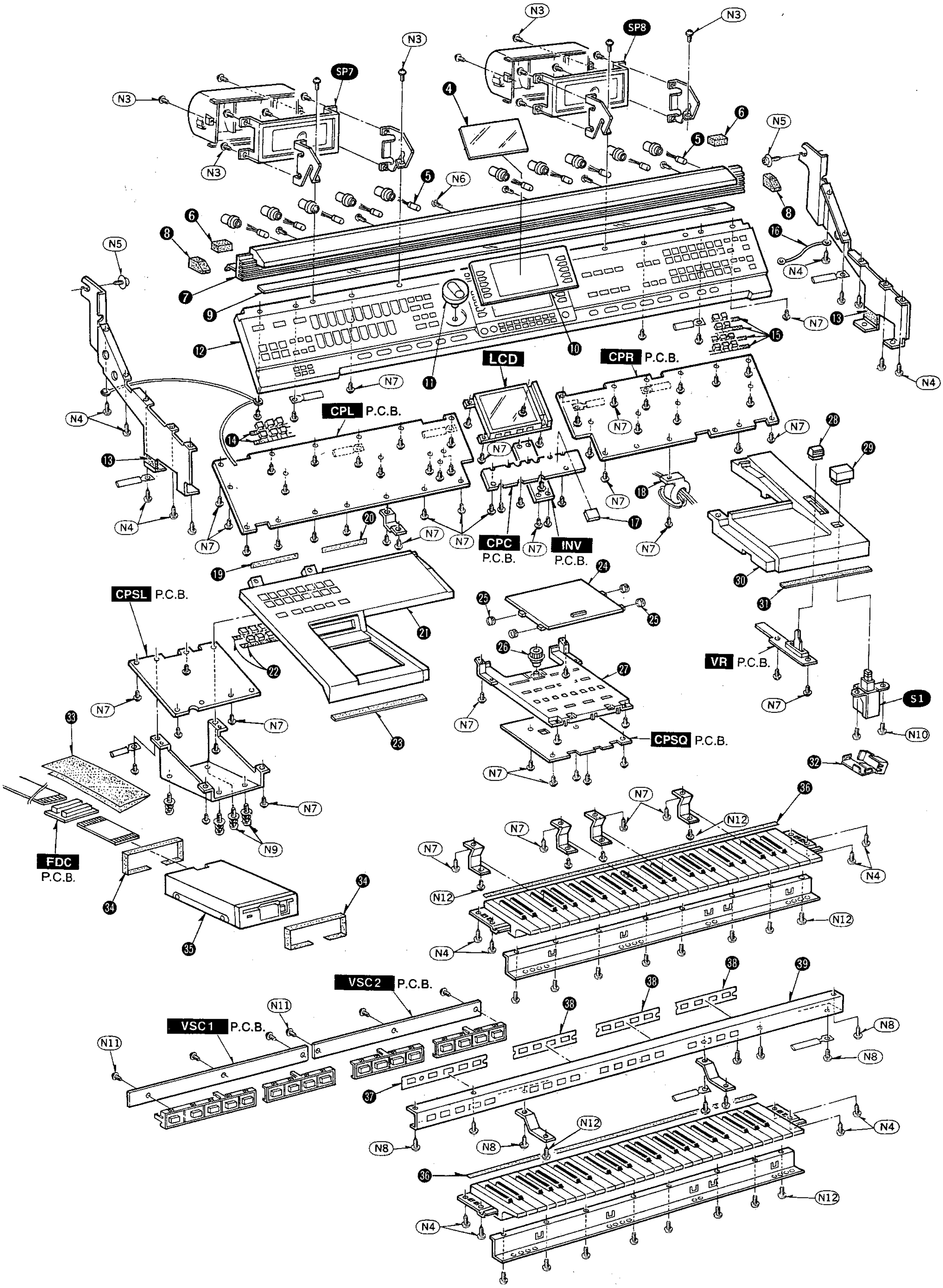
	Ref. No.	Parts No.		Description	P/S
		SX-GA3	**SX-G100C**		
	19	QGUG1278AA01	**QGUG1278AB01**	BUTTON	1

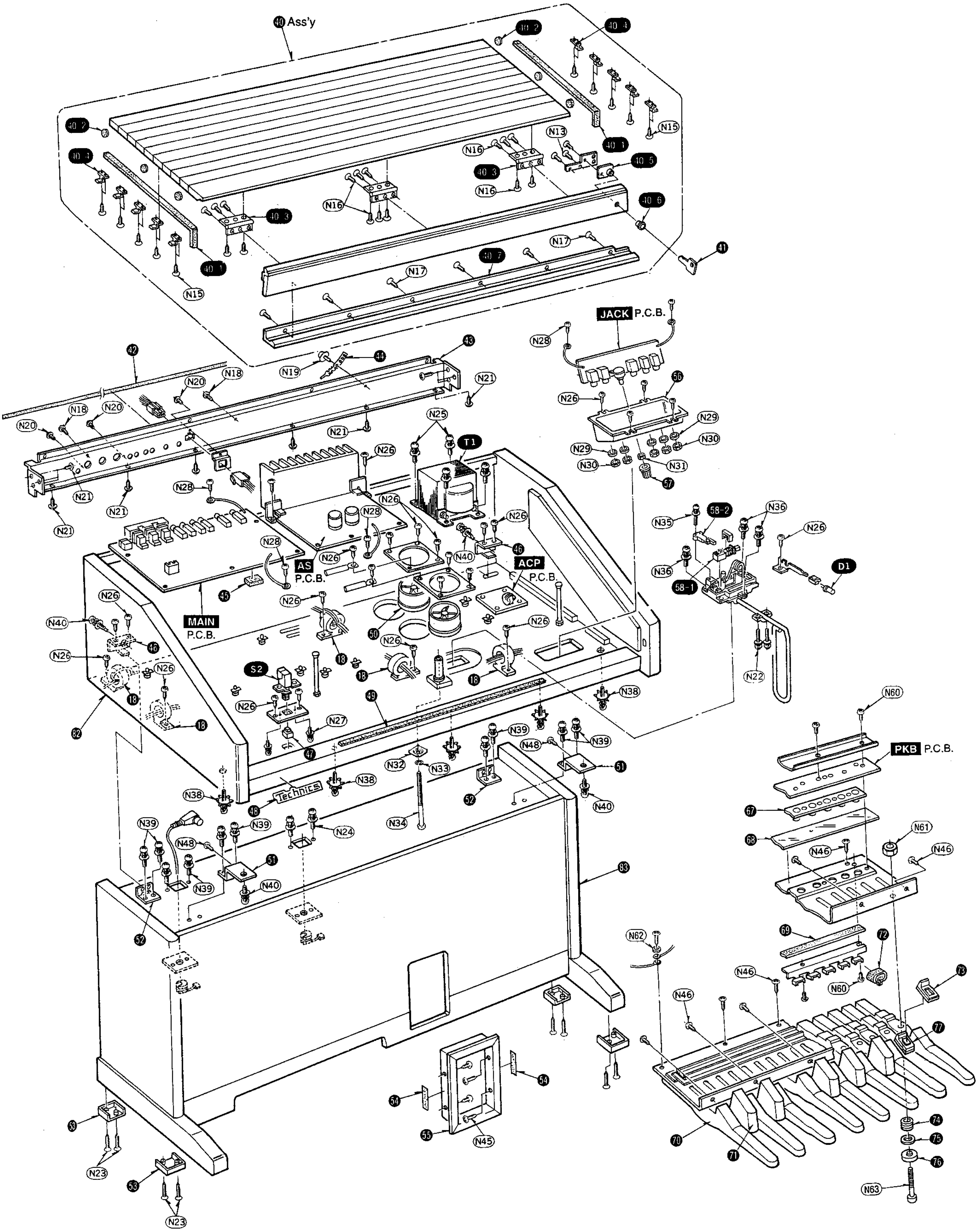
■ CABINET PARTS LOCATION


❶ Ass'y
N2
N1
1-1
❸ Ass'y
3-3
3-4
3-5
3-1
3-3
3-3
3-5
3-4
3-3
3-2

MANUAL KEYBOARD


100
106
108
103
102
104
105
101
111
110
101
112
107
114
109
116
113
115
N70
113
115
MKB1 P.C.B.
MKB2 P.C.B.


N3
N3
SP8
N3
N3
SP7
N3
N3
4
6
5
N5
5
N6
6
8
8
16
N4
N5
7
9
12
10
11
N7
13
15
N4
LCD
CPR P.C.B.
N7
N7
N7
CPL P.C.B.
N4
14
13
18
N7
28
29
17
N4
N7
20
N7
N7
CPC P.C.B.
N7
INV P.C.B.
N7
19
24
CPSL P.C.B.
25
25
21
30
31
26
22
27
VR P.C.B.
N7
N7
N7
S1
N10
CPSQ P.C.B.
N7
23
N7
32
33
N7
36
N7
N12
N7
N9
N7
N4
FDC P.C.B.
N12
34
34
N12
N4
35
VSC2 P.C.B.
38
39
38
N11
38
N8
VSC1 P.C.B.
N8
N11
37
N4
N8
N12
N8
36
N12
N4



㊵ Ass'y
40-2
40-4
40-2
40-4
N15
N16
N13
40-1
40-3
40-5
N16
40-6
N16
40-3
㊶
N17
40-7
N17
40-1
N15
JACK P.C.B.
N28
㊷
㊸
N19
㊹
N18
N20
N21
N20
N18
N20
N26
(56)
N29
N21
N25
N30
T1
N26
N29
N30
N31
(57)
N28
N21
N21
N21
N28
N26
N26
N35
58-2
N36
N26
N28
N40
N36
AS P.C.B.
ACP P.C.B.
58-1
D1
N26
MAIN P.C.B.
N26
㊺
N40
㊻
㊻
N26
N26
⑱
N26
㊿
N26
N26
⑱
⑱
N22
⑱
S2
N26
⑱
(82)
⑱
N38
㊾
N27
N60
N39
N48
N39
㊼
N32
N33
(51)
PKB P.C.B.
N38
N38
Technics
㊽
N40
(52)
N34
(67)
N39
N39
N24
N61
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(68)
N46
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N39
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(83)
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(54)
(54)
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N45
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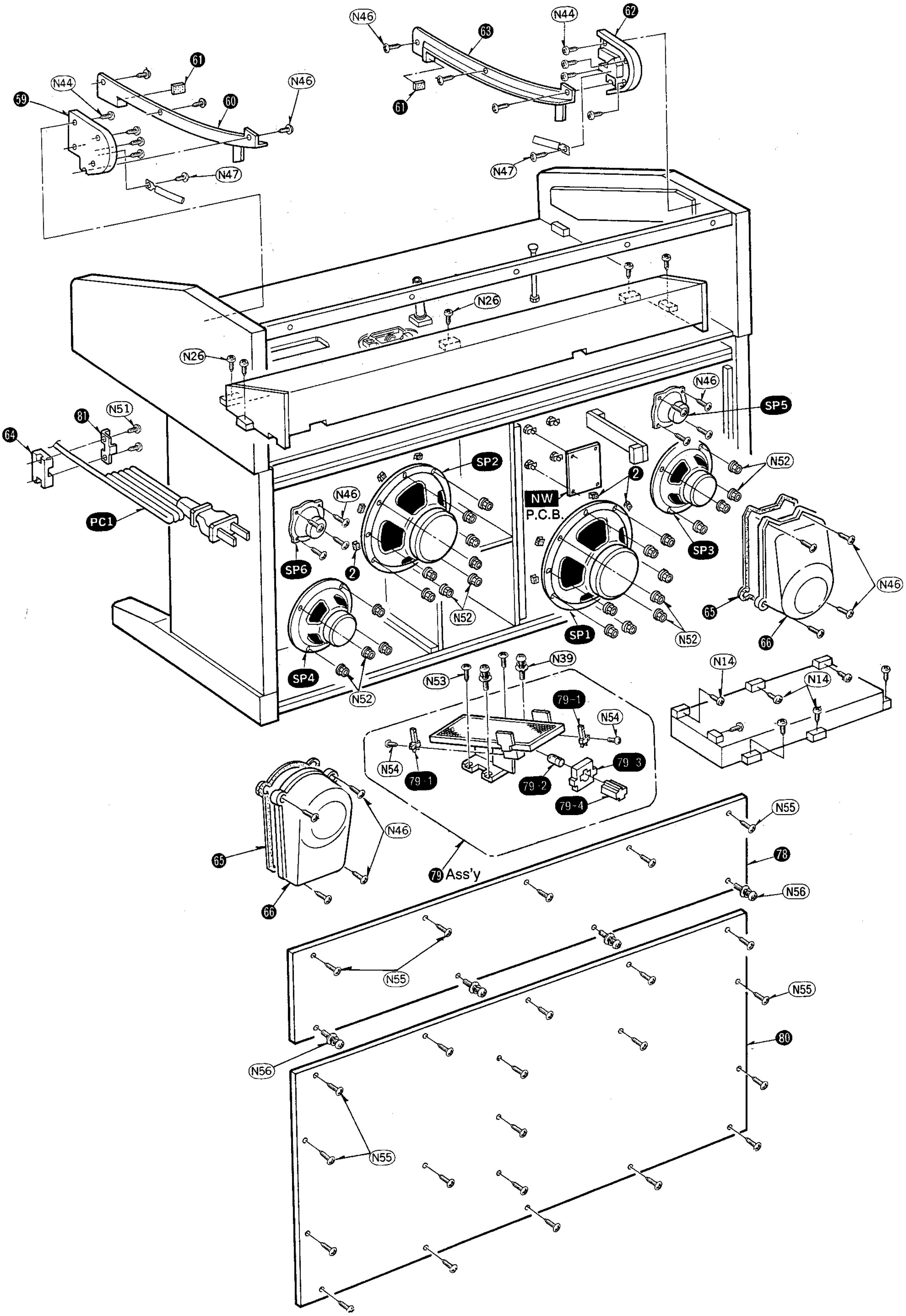
(75)
(70)
(71)
(76)
N23
N63
(53)
N23


N46
N44
62
63
61
N44
N46
59
60
61
N47
N47
N26
N26
N46
SP5
81
N51
64
SP2
N52
2
NW
P.C.B.
N46
PC1
SP6
2
SP3
N46
65
66
N52
N52
SP1
N52
SP4
N52
N39
N53
N14
N14
79-1
N54
N54
79-1
79-3
79-2
79-4
N55
N46
78
65
79 Ass'y
N56
66
N55
N55
N56
80
N55

REPLACEMENT PARTS LIST......Cabinet and Chassis Parts

Notes:

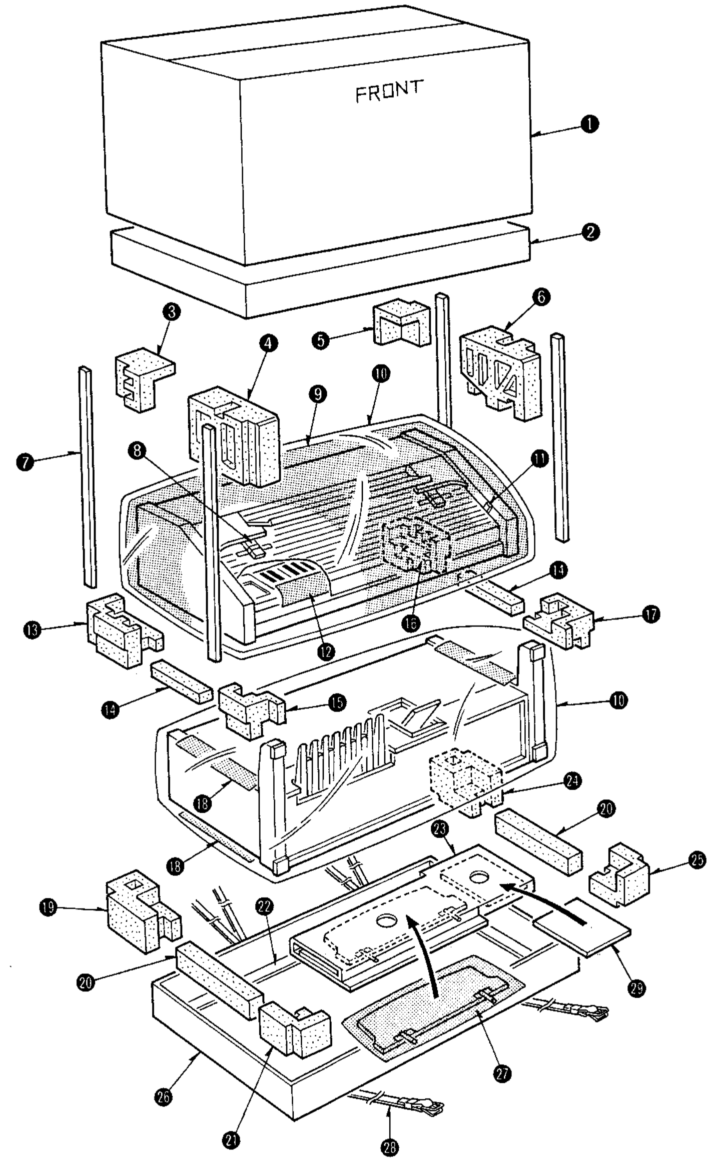
1. The marking (RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retension period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention.
   After the end of this period, the assembly will no longer be available.
2. ○ mark are new parts.
3. Important safety notice
   Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
4. For part No. with area mark, check the area when placing an order.
5. The raw material indication for synthetic resin
   In order to facilitate classification of parts of synthetic resin manufacture and to promote the recycling of natural resources, a raw material symbol for such parts is indicated in the Ref. No./ Material column.
6. The marking (※) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production; the item will contiune to be available for a specific period of time.

■CABINET & CHASSIS PARTS

Ref. No.	Part No.	Description	P/S
SWITCHES			
S1 ⚠	ESB8273V	POWER SWITCH	1
S2	SSHG1050A	POWER SWITCH	1
DIODE			
D1	LN29RP	LED, POWER INDICATOR	1
SPEAKERS			
SP1, 2	EAS30PL149A	30cm, 8Ω	2
SP3, 4	SASG16PL03-F	16cm, 8Ω	2
SP5, 6	EAS65PH31A3	6.5cm, 8Ω	2
SP7, 8	EAS15S06A	6×13cm, 16Ω	2
TRANSFORMER			
T1 ⚠	QTPG1Q004A	POWER TRANSFORMER	1
POWER CORD			
PC1 ⚠	SJAG24	POWER CORD	1
CABINET PARTS			
○ 1	QYAG1036AB	MUSIC STAND ASS'Y	1
1-1	SBLG230B	STAY	2
○ 2	QMRG5184AA	AIR PACKING	16
○ 3	QKQGA127AC	TOP COVER ASS'Y	1
3-1	QMRG7021AA	SLEEVE	2
3-2	QMFG1232AA	FELT	3
3-3	QMFG1057AA	FELT	4
3-4	QMFG1104AA	FELT	2
3-5	QMFG1244AA	FELT	2
4	QKWG013AA	LCD PANEL	1
5	XAMR90S770	LAMP	10
6	SHSG1830A	FELT	2
7	QGKG0014AB	ORNAMENT	1
8	QMRG7006AA	CAP	2
9	QMRG7005AA	LAMP COVER	1
10	QGPG0065AA	CENTER PANEL	1
11 ABS	SBNG4061A	DIAL WHEEL	1
○ 12 ABS	QGPG0063BD	CONTROL PANEL	1
13	QMFG1031AA	FELT	2
14	QMFG4127AA	CUSHION	2
15	QMFG4125AA	CUSHION	4
16	SWEG510A	WIRE	1
17	QMRG2046AA	SPACER	1
18	QLZG017A	CORE	6
19	SHSG6050A	CUSHION	1
20	QMFG4103AA	CUSHION	1
○ 21 PS	QGPG0064AE	LOWER CONTROL PANEL, LEFT	1
22	QMFG4124AA	CUSHION	2
23	QMFG4001AA	CUSHION	1
24 ABS	QGPG0059AD	SUBPANEL FRAME	1
25	SHGG9053A	RUBBER	4
26	RDG5782ZB	GEAR	1
27 PS	QGPG0058AG	SUBPANEL	1
28	SBNG7031A	KNOB	1
29	SBCG110B	BUTTON, POWER SWITCH	1
30 PS	QGPG0003BC	LOWER CONTROL PANEL, RIGHT	1
31	QMFG4002AA	CUSHION	1
32 ⚠	SHRG8390A	COVER, POWER SW	1
33	QMRG5164AA	CUSHION	1
34	QMFG4103AA	CUSHION	2
35	QAUG017AA	DISK DRIVE UNIT	1
○ 36	QMFG1257AA	FELT	2
37	QMRG7061AB	ORNAMENT	1
38	QMRG7061BB	ORNAMENT	3
39	QGKG0110AB	ORNAMENT, KEYBOARD	1
○ 40	QKQGF030AC	KEYBOARD COVER ASS'Y	1
40-1	QMFG1255AA	FELT	2
40-2	SHSG119	CUSHION	6
40-3	SBHG6007-1	HINGE	3
40-4	SHRG9930A	CATCH, GUIDE RAIL	10
40-5	SBEG31A	LOCK	1
40-6	SBEG40A	STAPLE	1
40-7	QGKG0127AA	ORNAMENT	1
41	SBEG60A	KEY	1
○ 42	QMFG4141AA	CUSHION	1
43	QGKG0108AA	JACK PANEL	1
44	SHRG1030A	CORD BAND	1
45	QMGG031AA	SPACER	1
46	SUWG3001A	BRACKET	2
47	SBCG20I	BUTTON	1
48	SGBG140B	BADGE	1
49	SHSG3050A	FELT	1
50	SYE1128-4	FAN	2
51	SUWG3033A	BRACKET	2
52	SUWG3020A	BRACKET	2
53 PP	SHRG2250A	FOOT	4
○ 54	QMFG1256AA	FELT	2
55	SGXG1100A	ORNAMENT, EXPRESSION	1
56 PS	SMKG1566A	JACK PANEL	1
57	SBNG4010A	VOLUME KNOB	1
58	SXVG3031B	KNEE LEVER ASS'Y	1

	Ref. No.	Part No.	Description	P/S
	58-1	SSHG1020A	PUSH SWITCH	1
	58-2	SSLG1005A	LEAF SWITCH	1
	59 ABS	SKEG7650A	GUIDE RAIL	1
	60 ABS	SKEG7670A	GUIDE RAIL	1
	61	SHSG3571A	FELT	2
	62 ABS	SKEG7640A	GUIDE RAIL	1
	63 ABS	SKEG7660A	GUIDE RAIL	1
	64	SHRG1110A	CORD CLAMPER	1
	65	SHRGA7021A	AIR PACKING	2
	66 PP	SHRG8290B	SPEAKER COVER	2
	67	QSPG1001AA	RUBBER SWITCH (5PCS.ON ONE)	3
○	68	QMRG2005AA	INSULATOR	1
	69	SHSG1600B	FELT	1
	70	STBG1164A	LONG KEY(BROWN)	8
	71 ABS	STBG2052A	BLACK KEY	5
	72	SHSG1460A	FELT	14
	73	SGXG1390A	ORNAMENT	1
	74	SUSG180A	SPRING	14
	75	SHGG8130A	RUBBER	14
	76	SHRG9240A	SPACER	14
	77	STBG2310A	FULL-BASE PEDAL	1
○	78	QKQGD113AC	REAR BOARD (UPPER)	1
○	79	SXVG6031A	EXPRESSION PEDAL	1
	79-1	SSHG14	FOOT SWITCH	2
	79-2	XAMR55P	LAMP	1
	79-3	SHGG908	LAMP HOLDING RUBBER	1
	79-4	RJS205ZA	SOCKET	1
○	80	QKUG1046AC	REAR BOARD (LOWER)	1
	81	SHRG1120A	CORD CLAMPER	1
○	82 ※	QYKG227AC	CABINET ASS'Y (UPPER)	1
○	83 ※	QYKG228AC	CABINET ASS'Y (LOWER)	1
	MANUAL KEYBOARD PARTS			
	100 AS	STBG2071A	BLACK KEY	40
	101 AS	STBG1101A	WHITE KEY (C&F KEY)	16
	102 AS	STBG1111A	WHITE KEY (D KEY)	8
	103 AS	STBG1121A	WHITE KEY (E&B KEY)	16
	104 AS	STBG1131A	WHITE KEY (G KEY)	8
	105 AS	STBG1141A	WHITE KEY (A KEY)	8
	106 AS	STBG1151A	WHITE KEY (TOP OCTAVE C KEY)	2
	107	SUSG271A	SPRING	98
	108	QMFG4176AAK	CUSHION	2
	109	QMWG3011AA	CHASSIS	2
	110	SHGG9052A	KEY GUIDE RUBBER	98
	111	QMWG5001AA	AFTER TOUCH SENSOR	2
	112	QMFG1137BA	FELT	2
	113 ABS	QMWG8031DA	SPACER (12PCS.ON ONE)	6
	114 ABS	QMWG8030CA	SPACER (13PCS.ON ONE)	2
	115	QMWG6010BA	RUBBER SWITCH (12PCS.ON ONE)	6
	116	QMWG6009BA	RUBBER SWITCH (13PCS.ON ONE)	2
	SCREWS & WASHERS			
	N1	XTB35+10AFZ	SCREW	2
	N2	XTT4+10AFZ	SCREW	2
	N3	XTW3+10T	SCREW	16
	N4	XTB4+12A	SCREW	18
	N5	SNEG2400A	SCREW WITH WASHER	2
	N6	XTB26+6J	SCREW	6
	N7	XTW3+10Q	SCREW	81
	N8	XTT4+10AFZ	SCREW	8
	N9	XYN3+F6	SCREW WITH WASHER	4
	N10	XTBS26+10J	SCREW	2
	N11	XTW3+8T	SCREW	6
	N12	XTB3+5C	SCREW	22
	N13	XTS3+12A	SCREW	3
	N14	XTB35+30A	SCREW	7
	N15	XTS4+12A	SCREW	20
	N16	XTS35+12A	SCREW	16
	N17	XTS3+10AFVC	SCREW	6
	N18	XTB35+12AFZ	SCREW	3
	N19	XWG3F13FZ	WASHER	1
	N20	XTW3+10JFZ	SCREW	3
	N21	XTT35+12AFVC	SCREW	12
	N22	XYN3+F16FZ	SCREW WITH WASHER	2
	N23	XTB35+25A	SCREW	8
	N24	QHDG004AA	SCREW	2
	N25	XYN4+F20	SCREW WITH WASHER	4
	N26	XTB35+12A	SCREW	31
	N27	XSN3+6	SCREW	2
	N28	SNEG2660A	SCREW	5
	N29	SNEG770A	WASHER	5
	N30	XNS12FZ	NUT	5
	N31	SNE4021-1	NUT	1
	N32	SNEG150B	WASHER	1
	N33	XWA5BFZ	WASHER	1
	N34	SNEG960B	SCREW	1
	N35	XTN2+10FFX	SCREW	1
	N36	XYN3+F12	SCREW WITH WASHER	3
	N38	QHDG006AB	SCREW WITH WASHER	5
	N39	XYN4+F20FZ	SCREW WITH WASHER	12
	N40	QHDG030AA	SCREW WITH WASHER	4
	N44	XTB35+20A	SCREW	8
	N45	XTB3+14AFVC	SCREW	4
	N46	XTT4+14A	SCREW	31
	N47	XTV3+10G	SCREW	2
	N48	XTB35+14A	SCREW	2
	N51	XTB35+25A	SCREW	2
	N52	SNE499-1	NUT	24
	N53	XTT4+16AFZ	SCREW	2
	N54	XTN26+6B	SCREW	2
	N55	GTT4+30AFZ	SCREW	24
	N56	XYN4+F12FZ	SCREW WITH WASHER	4
	N60	XTB3+6B	SCREW	5
	N61	XNG5BS	NUT	14
	N62	XWA4B	WASHER	1
	N63	SNEG360A	SCREW	14
	N70	XTW3+10T	SCREW	60

■PACKING



■PACKING PARTS

	Ref. No.		Part No.	Description	P/S
			PACKING PARTS		
	1		QPGG0400AB	PACKING CASE, PAPER	1
	2		QPGG0401AA	TOP CASE, PAPER	1
	3	PS	QPNG0670AA	PAD	1
	4	PS	QPNG0668AA	PAD	1
	5	PS	QPNG0671AA	PAD	1
	6	PS	QPNG0669AA	PAD	1
	7		QPQG057AB	PROP	4
	8		QPNG0631AA	PAD	2
	9	PE	QPHG076AA	PROTECTION SHEET	1
	10	PE	SPHG770A	POLYETHYLENE BAG	2
	11		SHSG2090A	FELT	2
	12	PE	QPHG010CA	PROTECTION SHEET	1
	13	PS	QPNG0674AA	PAD	1
	14	PS	QPNG0680AA	PAD	2
	15	PS	QPNG0672AA	PAD	1
	16	PS	QPNG0675AA	PAD	1
	17	PS	QPNG0673AA	PAD	1
	18	PE	QPHG077AA	PROTECTION SHEET	4
	19	PS	QPNG0678AA	PAD	1
	20	PS	QPNG0681AA	PAD	2
	21	PS	QPNG0676AA	PAD	1
	22		QPQG058AB	FRAME	1
	23		QPGG0273AA	MUSIC STAND CASE, PAPER	1
	24	PS	QPNG0679AA	PAD	1
	25	PS	QPNG0677AA	PAD	1
	26		QPGG0402AA	BOTTOM CASE, PAPER	1
	27	PS	SPHG2020A	PROTECTION SHEET	1
	28		SPSG40A	BAND	2
			OPERATING INSTRUCTION MANUAL		
○	29		QQFGG100CBA	OPERATING INSTRUCTION MANUAL, EZ	1
○	29		QQFGG100CCA	OPERATING INSTRUCTION MANUAL, EH	1
○	29-1		QQTG0250A	FRANCAIS	1
	29-2		QQTG0251A	DEUTSCH	1
○	29-3		QQTG0252A	NERDERLANDS	1

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A4

9730

Service Manual

Electronic Organ

Supplement

SX-G100C

Area
(EZ)...................Germany.

Subject : Change of Cabinet Parts List depend on a formalin countermeasure.

Please file and use this supplement manual together with the service manual for Model No.SX-G100C(EZ), Order No.EMID981698.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

1 Replacement Parts List (Change Part)

[CABINET & CHASSIS PARTS (Refer to pages 14, 15.)]

Note:

The marking (*) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production; the item will continue to be available for a specific period of time.

Ref. No.	Change of part No.		Part Name & Description	Pcs.	Remarks
	ORIGINAL	**NEW**			
CABINET PARTS					
1	QYAG1036AB	**QYAG1036ABZ**	MUSIC STAND ASS'Y	1	
3	QKQGA127AC	**QKQGA127ABZ**	TOP COVER ASS'Y	1	
40	QKQGF030AC	**QKQGF030ABZ**	KEYBOARD COVER ASS'Y	1	
78	QKQGD113AC	**QKQGD113ABZ**	REAR BOARD (UPPER)	1	
80	QKUG1046AC	**QKUG1046ABZ**	REAR BOARD (LOWER)	1	
82*	QYKG227AC	**QYKG227ABZ**	CABINET ASS'Y (UPPER)	1	
83*	QYKG228AC	**QYKG228ABZ**	CABINET ASS'Y (LOWER)	1	

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Printed in Japan H000300550 TN/TF (2305)0002-006

EMID0007028S0
A4

Electronic Organ

Supplement

SX-GA1 / SX-GA2 / SX-GA3

Area
(M) U.S.A.
(MC) Canada
(XM) Mexico
(EN) Norway, Sweden, Denmark, Finland,
(EH) Holland, Belgium
(EF) France, Italy
(EZ) Germany
(EW) Switzerland

(EA) Austria
(EP) Spain, Portugal, Greece
(EK) the United Kingdom
(XL) New Zealand
(XR) Australia
(XS) Malaysia, Singapore, South Africa
(XD) Saudi Arabia, Kuwait
(X) the Middle East, Indonesia, Hong Kong, Thailand
(XT) Taiwan
(XP) Philippines

Change of Disk Drive Unit / (The disk drive unit has been replaced with a new type.)

This document is supplementary to the following Service Manuals.

Model No.	Area Code	Order No.	Bran
SX-GA1	(M, MC, XM, EN, EH, EF, EZ, EW, EA, EP, EK, XL, XR, XS, XD, X, XT)	EMID941514	Technics
SX-GA2	(EP, XL, XR, XS, XD, X, XT, XP)	EMID971619	Technics
SX-GA3	(M, MC, XM, EN, EH, EF, EZ, EW, EA, EP, EK, XL, XR, XS, XD, X, XT)	EMID941513	Technics

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1. Replacement Part List

Ref. No.	Change of Parts No.		Part Name & Description	Remarks
	Original	Supplement		
CABINET PARTS				
	QAUG017AA	QAUG027AA	DISK DRIVE UNIT	CHANGE
	QEUGMSW06D	QEXGZA34015B	CONNECTOR WITH WIRE	CHANGE
	QMFG4103AA	QMFG1220AA	CUSHION	CHANGE
PRINTED CIRCUIT BOARED				
	SXPG229211	SXPG235611	FDC	CHANGE

2. CABINET PART LOCATION

Printed in Japan / S000900000 HM/TF / 000718A T.I.No.2574

ORDER NO. EMID891262
A4

Service Manual

Electronic Organ

SX-GN3/GN3K

(N), (M), (MC), (XM), (EN), (EI), (EH), (EB), (EF),
(EZ), (EW), (EP), (EK), (XL), (XR), (XS), (XD), (X)

Photo: SX-GN3K

AREAS

(N):	Japan	(EW):	Switzerland
(M):	U.S.A.	(EP):	Spain
(MC):	Canada	(EK):	the United Kingdom
(XM):	Mexico	(XL):	New Zealand
(EN):	Norway, Sweden, Denmark, Finland	(XR):	Australia
(EI):	Italy	(XS):	Malaysia, Singapore, South Africa
(EH):	Holland	(XD):	Saudi Arabia
(EB):	Belgium	(X):	the Middle East, Indonesia, Hong Kong, the Philippines, Taiwan, Thailand
(EF):	France, Austria		
(EZ):	Germany		

■ Information

1. There are two identical models are available as SX-GN3 and SX-GN3K and all specifications are the same in both models except cabinet parts and panel parts. Identify an unit with model number which available on the name plate on the rear board and perfrom proper service.
2. The pictures and illustrations in this manual are taken from SX-GN3K.

■ Specifications

KEYBOARD		UPPER KEYBOARD: 49 KEYS, LOWER KEYBOARD: 49 KEYS PEDAL KEYBOARD: 13 KEYS, FULL BASS PEDAL (N area only)
PRESET SOUND	ORCHESTRAL CONDUCTOR (UPPER/LOWER)	VOLUME, TAB & ORGAN, POLY, SPECIAL, SOLO
	SOUND SELECT (UPPER/LOWER)	PIANO, ELECTRIC PIANO, HARPSICHORD, MALLET, GUITAR, ELECTRIC GUITAR, STRINGS, VOCAL, BRASS, TRUMPET, SAX, REED, FLUTE, VIOLIN, ACCORDION, EXTEND
	TAB	UPPER: FLUTE 16′, 8′, 5-1/3′, 4′, 2-2/3′, 2′, 1′ PERC 4′, 2-2/3′, LOWER: FLUTE 8′, 4′, 2-2/3′, 2′, 1′
	ORGAN	UPPER: 9 PRESETS, LOWER: 5 PRESETS
	BASS	ORGAN, ORCHESTRA, ACOUSTIC, ELECTRIC, CHOPPER, SYNTH 1, 2, PIPE ORGAN
SOUND EDIT	PARAMETERS	TONE ASSIGN MODE (NORMAL, DUAL, DUET, TRIO), TONE SELECT, VOLUME (LEVEL, KEY BALANCE), PITCH (KEYSHIFT, DETUNE), REPEAT (SPEED), ENVELOPE (ATTACK & DECAY, RELEASE), VIBRATO (DEPTH, SPEED, DELAY), TREMOLO (SPEED), AUTOBEND & TRILL (PATTERN, DEPTH, SPEED), PITCH RELEASE (DEPTH, TIME), GLIDE (ON/OFF), INITIAL TOUCH (VOLUME, AUTOBEND & TRILL), AFTER TOUCH (VOLUME, MODULATION), SUSTAIN (ON/OFF), SOUND NAME
	MEMORY	UPPER 8, LOWER 8, BASS 8

EFFECT	CELESTE	SOUND SELECT, TAB & ORGAN (UPPER & LOWER)
	REVERB	SOUND SELECT, TAB & ORGAN (UPPER & LOWER), DEPTH
	TOUCH	SOUND SELECT (UPPER & LOWER)
	SUSTAIN	SOUND SELECT, TAB & ORGAN (UPPER & LOWER), BASS, LEVEL
	TREMOLO	TAB & ORGAN (UPPER & LOWER), SLOW/FAST
TRANSPOSE		G-C-F♯
TECHNI-CHORD		PROGRAM (CLOSE, OPEN 1, 2)
RHYTHM	PATTERN	MARCH, POLKA, COUNTRY, WALTZ, TANGO, CHA-CHA, RHUMBA, FAST LATIN, BIG BAND, JAZZ COMBO, MODERN JAZZ, DIXIE, JAZZ WALTZ, SHUFFLE, SAMBA, BOSSANOVA, 8 BEAT 1, 2, HARD ROCK, ROCK'N' ROLL, ROCK BALLAD, SAMBA ROCK, SALSA, REGGAE, 16 BEAT 1, 2, 16 BEAT BALLAD, JAZZ ROCK, FUNK, SWING ROCK, DISCO 1, 2, VARIATION
	CONTROL	START/STOP, SYNCHRO & BREAK, FILL IN 1, 2, INTORO & ENDING, TEMPO
	KEYBOARD PERCUSSION	39 KEYS
AUTO PLAY CHORD		FINGERED 1, 2, MEMORY

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of Puerto Rico, Inc.
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Carolina, P.R. 00630

ARRANGER		ACCOMP 1, ACCOMP 2 & 3, DRUMS
ONE TOUCH PLAY		○ (ONE TOUCH PLAY, MUSIC STYLE)
VOICE SETTING COMPUTER		SET, 1-8
COMPOSER		5 TRACKS (ACCOMP 1, 2, 3, BASS, DRUMS), MEMORY...8 INPUT MODE (REAL TIME, STEP) EDITING FUNCTIONS (COPY, RECORDING CHORD SELECT)
SEQUENCER	TRACK	8 TRACKS
		PART: UPPER, LOWER, BASS, CHORD, UPPER POLY, LOWER POLY, DRUMS, CONTROL
		STORAGE CAPACITY: APPROX. 6,000 NOTES INPUT MODE: REAL TIME, STEP EDITING FUNCTIONS: PUNCH IN/OUT, TRACK ASSIGN, SONG ALL CLEAR, TRACK CLEAR, TRACK MERGE, MEASURE DELETE, MEASURE ERASE, MEASURE INSERT, MEASURE COPY, VELOCITY CHANGE, QUANTIZE, DEMONSTRATION TUNE
MUSICAL DIRECTOR		LIQUID CRYSTAL DISPLAY: 20 LETTERS × 2 LINES, SHIFT/NORMAL BUTTON, CONTRAST
CONTROL		PAGE, TEMPO/PROGRAM DIAL, BALANCE, VOLUME
MIDI		PART (12 PARTS), BASIC CHANNEL (1~16), MIDI INPUT SELECT (CONDUCTOR/DIRECT, APC/DIRECT), MIDI OUTPUT SELECT (KEYBOARD/CONDUCTOR, TECHNI-CHORD ON/OFF, APC/CHORD) MIDI FUNCTION SELECT: <COMMON> INITIAL, NOTE ONLY, TRANSPOSE OUT, PROGRAM CHANGE MODE, SONG SELECT, REAL TIME COMMAND, MIDI CLOCK, MIDI LOAD <PART> OCTAVE SHIFT, PROGRAM CHANGE, VSC PROGRAM CHANGE, SUSTAIN, AFTER TOUCH, PITCH BEND, MODULATION, VOLUME, TREMOLO, EFFECT 1, EFFECT 2, EXPRESSION, INTRO, MIDI APC, DRUMS TYPE, LOCAL CONTROL, MIDI OUT, VSC PROGRAM CHANGE, VSC LOCAL CONTROL
EXTERNAL MEMORY		DIGITAL DISK RECORDER (OPTION)
TERMINALS	MIDI	IN, OUT, THRU
	OTHERS	LINE OUT ...output level 300mV, 600Ω 2CH output (L, R/R+L) AUX IN ....input level 150mV, 10KΩ L, R/R+L terminals PHONES .....use headphones with 16Ω impedance
OTHERS		POWER SWITCH, MAIN VOLUME, EXPRESSION PEDAL, FOOT SWITCH, KNEE LEVER
OUTPUT		100W
SPEAKERS		20cm × 2, TWEETER × 2, 13cm × 6cm × 2 (MONITOR)
POWER REQUIREMENT		290W, 240VA (CANADA) AC 220V 50Hz/60Hz EUROPE (EXCEPT FOR ENGLAND) AC 120V 60Hz NORTH AMERICA AC 120/220/240V 50Hz/60Hz OTHERS
DIMENSIONS (W × H × D)		GN3: 122.3cm × 120cm × 60.1cm (48-5/32" × 47-1/4" × 23-21/32") GN3K: 122.3cm × 117.5cm × 60.1cm (48-5/32" × 46-1/4" × 23-21/32")
NET WEIGHT		GN3: 84Kg (185.2lbs) GN3K: 85Kg (187.4lbs)

- Specifications are subject to change without notice for further improvement.

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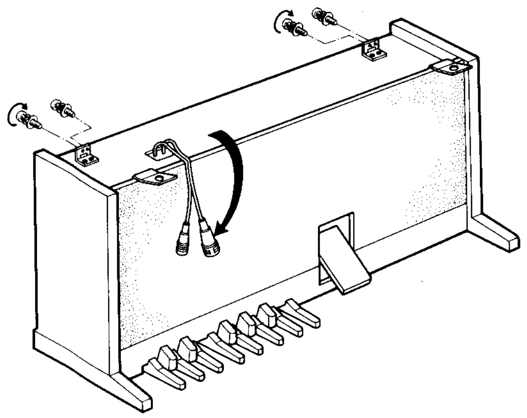
HOW TO ASSEMBLE THE ORGAN

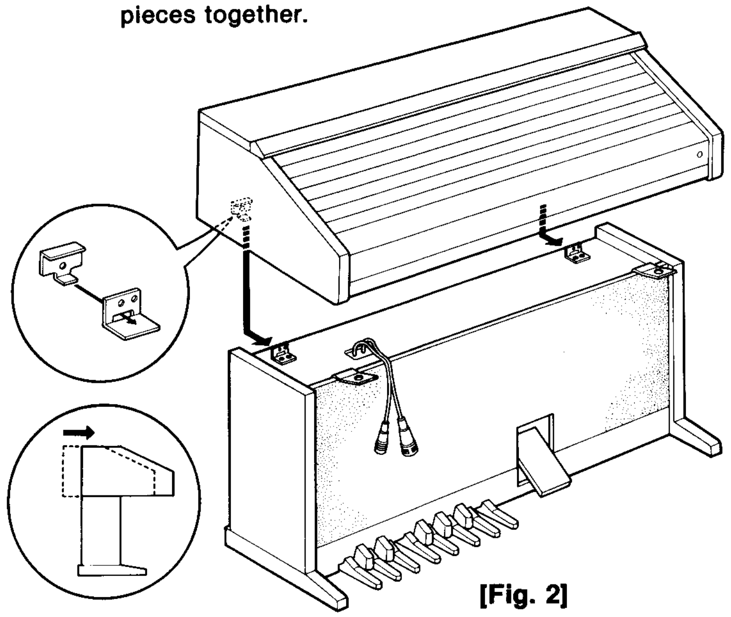
The illustration for following assembly is taken from MODEL SX-GN3. (The SX-GN3K is differ from SX-GN3)

1 On the lower stand part, remove the four bolts from the metal joints.
Lay the cords to the front of the stand.



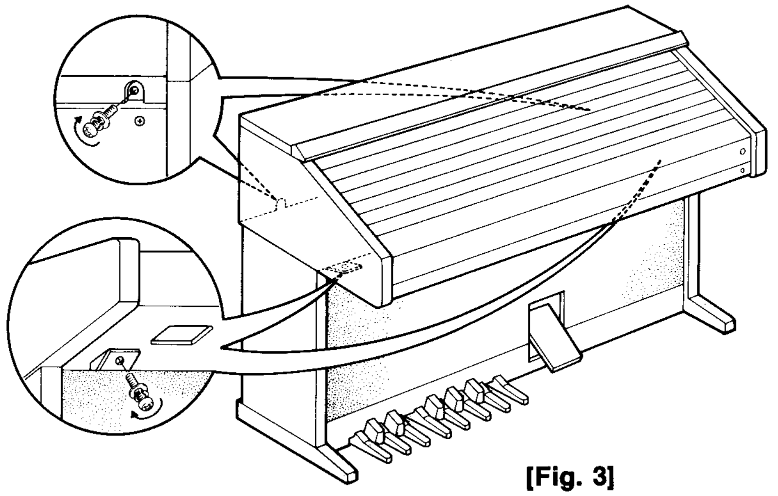
[Fig. 1]

2 Place the upper organ part on the lower stand part, making sure to fit the metal pieces together.



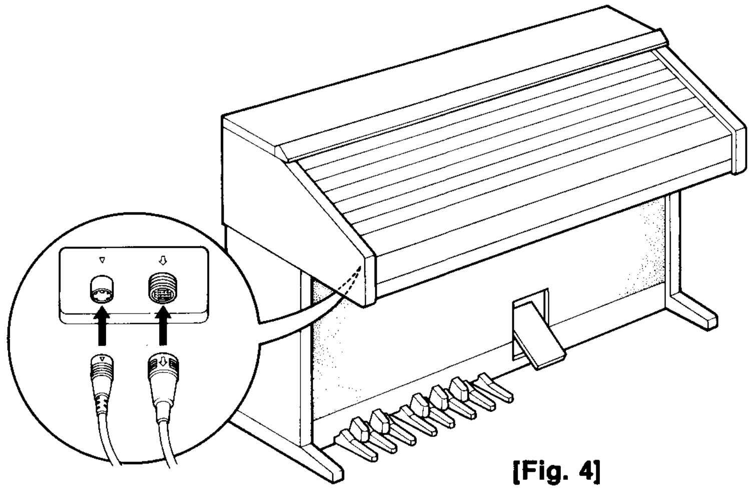
[Fig. 2]

3 Using the four bolts removed in step 1, secure the upper organ part to the lower organ part as shown in the figure.



[Fig. 3]

4 Connect the two cords from the lower stand part to the respective terminals on the underside of the upper organ part. Unlock the cover with the accessory key.



[Fig. 4]

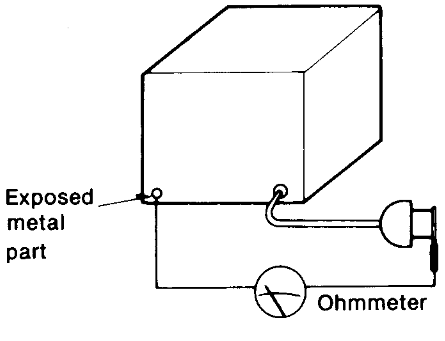
SAFETY PRECAUTION (This "safety precaution" is applied only in U.S.A.)

• Safety Precaution

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

• Insulation Resistance Test

1. Unpulg the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screw heads, connectors, control shafts, handle brackets, etc.. Mesurements should range from 4MΩ to infinity to all exposed parts.



Resistance=4MΩ to ∞

INITIAL SETTING

1 Initial setting function will be used to return to the Original Factory setting mode, reset the customer setting and irregular operations with following methodes.

1. Turn the POWER switch to off.
2. Then, Turn on the POWER switch while pressing 16 BEAT 1, 16 BEAT 2, and 16 BEAT BALLAD buttons at the same time.

NOTE:
All stored data in the SEQUENCER, COMPOSER AND OTHER will be initialized with this operation.

2 Initial setting function also be able to reset limited function of the stored data or all data as same purpose as section 1 above. (ALL, COMPOSER, SOUND MEM, or SEQUENCER is selectable.)

1. Set the MUSICAL DIRECTOR to MEMORY & CONTROL mode.
2. Change the MUSICAL DIRECTOR mode to INITIAL SETTING mode with PAGE button to call 2nd PAGE.

[MEMORY & CONTROL MODE] PAGE 2

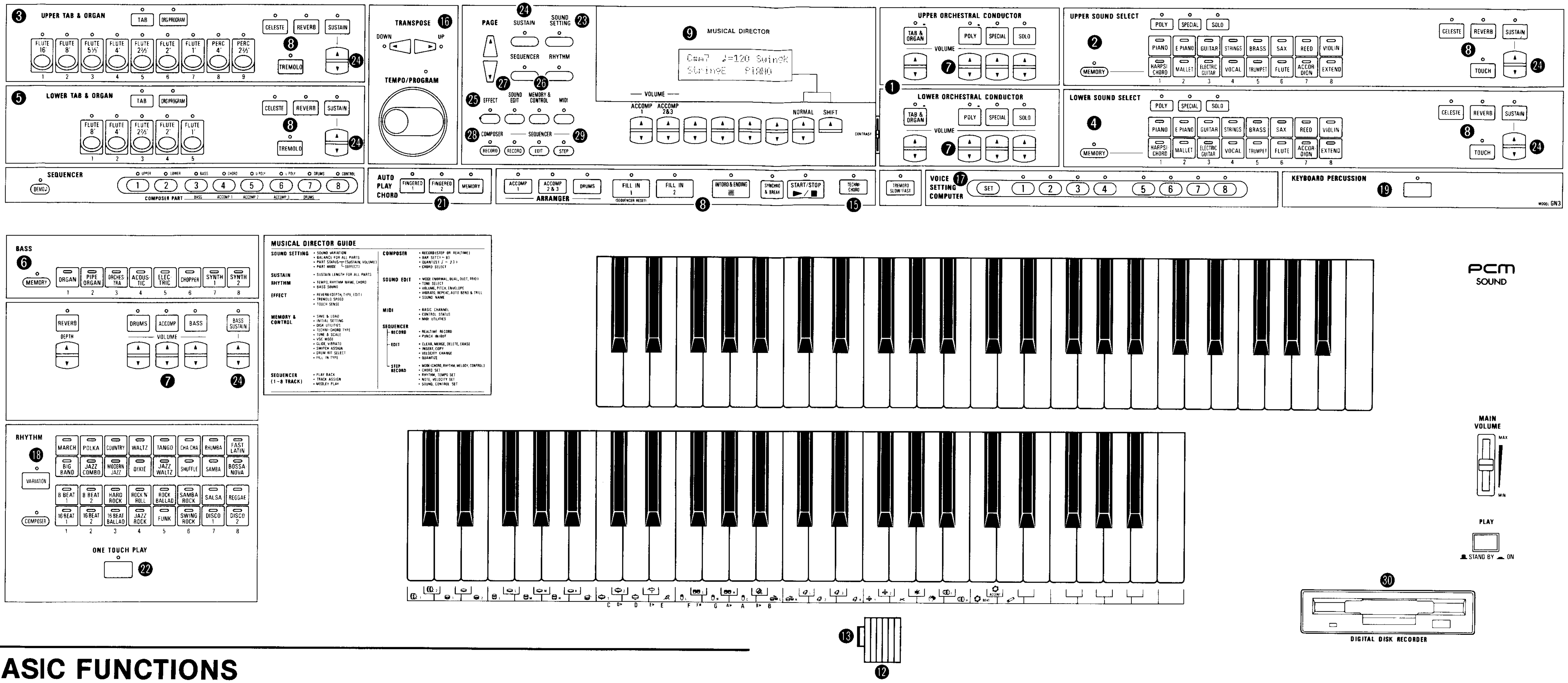
```
2:INITIAL SETTING
     ALL        [SET]
 ①     ②     ③     ④
```

3. The functions to be initialized are selected by the ② buttons.
   ALL:
   Initializes all functions such as the status of sounds and effects, VOICE SETTING COMPUTER, SOUND SELECT storable memories, COMPOSER and SEQUENCER.
   COMPOSER:
   Initializes the **COMPOSER** memories and sets then to the factory presets.
   SOUND MEM.:
   Initializes the **SOUND SELECT** storable memories of all parts and sets them to the factory presets.
   SEQUENCER:
   Initializes the memory contents of all tracks.
4. Press ④ button to change to the following confirmation display.

```
2:INITIAL SETTING
  SURE?      [NO] [YES]
 ①     ②     ③     ④
```

- Press ④ button for [YES] to execute the initialization procedure.
- Press ③ button for [NO] to cancel the initialization procedure.

ARRANGEMENT OF CONTROL PANEL


UPPER TAB & ORGAN
TAB
ORG PROGRAM
FLUTE 16'
FLUTE 8'
FLUTE 5⅓'
FLUTE 4'
FLUTE 2⅔'
FLUTE 2'
FLUTE 1'
PERC 4'
PERC 2⅔'
CELESTE
REVERB
SUSTAIN
TREMOLO
LOWER TAB & ORGAN
TRANSPOSE
DOWN
UP
TEMPO/PROGRAM
PAGE
SUSTAIN
SOUND SETTING
SEQUENCER
RHYTHM
EFFECT
SOUND EDIT
MEMORY & CONTROL
MIDI
COMPOSER
RECORD
EDIT
STEP
MUSICAL DIRECTOR
C#m7 ♩=120 Swing
Strings PIANO
VOLUME
ACCOMP 1
ACCOMP 2&3
NORMAL
SHIFT
CONTRAST
UPPER ORCHESTRAL CONDUCTOR
TAB & ORGAN
POLY
SPECIAL
SOLO
LOWER ORCHESTRAL CONDUCTOR
UPPER SOUND SELECT
LOWER SOUND SELECT
MEMORY
PIANO
E.PIANO
GUITAR
STRINGS
BRASS
SAX
REED
VIOLIN
HARPSI CHORD
MALLET
ELECTRIC GUITAR
VOCAL
TRUMPET
FLUTE
ACCOR DION
EXTEND
TOUCH
SEQUENCER
DEMO
COMPOSER PART
AUTO PLAY CHORD
FINGERED 1
FINGERED 2
ACCOMP 1
ACCOMP 2&3
DRUMS
FILL IN 1
FILL IN 2
INTRO & ENDING
SYNCHRO & BREAK
START/STOP
TECHNI CHORD
ARRANGER
TREMOLO SLOW/FAST
VOICE SETTING COMPUTER
SET
KEYBOARD PERCUSSION
MODEL GN3
BASS
ORGAN
PIPE ORGAN
ORCHES TRA
ACOUS TIC
ELEC TRIC
CHOPPER
SYNTH 1
SYNTH 2
DEPTH
BASS SUSTAIN
MUSICAL DIRECTOR GUIDE
RHYTHM
MARCH
POLKA
COUNTRY
WALTZ
TANGO
CHA CHA
RHUMBA
FAST LATIN
BIG BAND
JAZZ COMBO
MODERN JAZZ
DIXIE
JAZZ WALTZ
SHUFFLE
SAMBA
BOSSA NOVA
VARIATION
8 BEAT 1
8 BEAT 2
HARD ROCK
ROCK'N ROLL
ROCK BALLAD
SAMBA ROCK
SALSA
REGGAE
16 BEAT 1
16 BEAT 2
16 BEAT BALLAD
JAZZ ROCK
FUNK
SWING ROCK
DISCO 1
DISCO 2
ONE TOUCH PLAY
PCM SOUND
MAIN VOLUME
MAX
MIN
PLAY
STAND BY
ON
DIGITAL DISK RECORDER
❶
❷
❸
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❾
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BASIC FUNCTIONS

❶ ORCHESTRAL CONDUCTOR

These buttons allow you to select groups of sounds, or parts, and their effects instantly. The upper and lower keyboard parts are selected respectively with the **UPPER** and **LOWER ORCHESTRAL CONDUCTOR**. The volume for each part is adjusted with the respective **VOLUME** buttons in this section.

❷ UPPER SOUND SELECT

With this block of buttons, you select the sound for each of three sound groups (parts). First you select a part (**POLY, SPECIAL** or **SOLO**, and then you select one of the many preset sounds for that part. Store a different sound for each part. When a part is selected in the **UPPER ORCHESTRAL CONDUCTOR**, the sound you set for that part is selected for the upper keyboard. **MEMORY** buttons are for storing unique sounds you create yourself with the **SOUND EDIT** feature. The volume of each part is adjusted with the respective **VOLUME** buttons in the **UPPER ORCHESTRAL CONDUCTOR.**

❸ UPPER TAB & ORGAN

TAB sounds are selected for the upper keyboard by turning on the **TAB & ORGAN** button in the **UPPER ORCHESTRAL CONDUCTOR**. Included are the flute and percussive sounds, plus tremolo, sustain, reverb and celeste effects. When the **ORG PROGRAM** button is on, the programmable tab buttons are used to select 9 organ sounds (from 17 factory-preset sounds). The volume is adjusted with the respective **VOLUME** buttons in the **UPPER ORCHESTRAL CONDUCTOR.**

❹ LOWER SOUND SELECT

Sounds are selected for the lower keyboard parts in the same way as for the **UPPER SOUND SELECT** parts. The lower keyboard sounds are used mostly for accompaniment.

❺ LOWER TAB & ORGAN

Select these sounds for the lower keyboard by turning on the **TAB & ORGAN** button in the **LOWER ORCHESTRAL CONDUCTOR**. Like the **UPPER TAB & ORGAN** buttons, the sounds can be combined or selected individually.

❻ BASS

These are the sounds for the pedal keyboard. **MEMORY** buttons are for storing unique sounds you create yourself with the **SOUND EDIT** feature. The **BASS** sound volume is adjusted with the respective buttons in the separate **VOLUME** section.

❼ VOLUME

The volumes for the upper and lower keyboard parts are controlled with the corresponding **VOLUME** buttons in the respective **UPPER** and **LOWER ORCHESTRAL CONDUCTOR**. The **BASS** volume is adjusted with the **BASS** buttons in the separate **VOLUME** section.

❽ Effects

The **CELESTE, TREMOLO, SUSTAIN** and **REVERB** effects are turned on and off for the selected upper and lower keyboard sounds. For the **SOUND SELECT** sound, the **TOUCH** effect is also available.

❾ MUSICAL DIRECTOR

In the normal mode, the **MUSICAL DIRECTOR** indicates the selected sounds, volumes, rhythm, tempo, and all other information about the panel settings. The display is also used for setting the various **SOUND SETTING, SUSTAIN, EFFECT** and **MEMORY & CONTROL** functions. The amazing number and range of settable functions makes the GN series organ truly an instrument which you can fashion to fit exactly your particular playing style and tastes. And finally, the **MUSICAL DIRECTOR** is your key to programming when using the **SOUND EDIT, COMPOSER** and **SEQUENCER** features of your organ. The **CONTRAST** is adjusted with the sliding control.

⓬ Expression pedal

Increase and decrease the loudness of all the organ sound as you play to add expression to the music.

⑬ Glide control
Lower the pitch of the organ by one half-tone or whole tone by pressing the left foot switch. This is used, for example, to get the Hawaiian guitar effect.

⑮ TECHNI-CHORD
Chord notes played on the lower keyboard are added to melody notes played on the upper keyboard. Choose from four harmonic styles.

⑯ TRANSPOSE
C is the standard setting, but you can raise or lower the key of the entire organ with the two buttons. The transposed key is shown on the normal mode display of the **MUSICAL DIRECTOR**. The two buttons are also used to move the cursor on the display when assigning names to your recorded creations or when step-recording/correcting **COMPOSER** and **SEQUENCER** performance data.

⑰ VOICE SETTING COMPUTER
Set up the sounds and effects for the upper, lower and pedal keyboards, and then store them in these 8 buttons for instant recall as you play. You can expand the range of the storable settings to include rhythm selection, tempo setting and more.

⑱ RHYTHM
Select one of the various preset rhythms and start it instantly with the **START/STOP** button. Other features which enhance the **RHYTHM** unit are **SYNCHRO & BREAK**, **INTRO & ENDING**, **FILL IN**, **ARRANGER** and a foot switch. The volume is adjusted with the **DRUMS** buttons in the **VOLUME** section.

⑲ KEYBOARD PERCUSSION
One press of the **KEYBOARD PERCUSSION** button transforms your lower keyboard into a whole band of percussive instruments and special sounds. The keys are picture-coded for quick and easy selection.

㉑ AUTO PLAY CHORD
This feature is activated when the **FINGERED 1** or **FINGERED 2** button is turned on. A full chord and a bass note are automatically produced when you play a key on the lower keyboard. Play major, minor, seventh or minor seven chords and the bass note just by pressing one key. The volume for each part of the **AUTO PLAY CHORD** (**ACCOMP**, **BASS**, **DRUMS**) is adjusted with the respective buttons in the separate **VOLUME** section.

㉒ ONE TOUCH PLAY
With this special feature, you select a rhythm or type of music, and the appropriate sounds and effects are automatically set.

㉓ SOUND SETTING functions
Turning on this button readies the **MUSICAL DIRECTOR** for use as a controller to preset sounds, effects, volume, and mode setting for each part.

㉔ SUSTAIN functions
Turn this button on to set the sustain on/off status and sustain time for each part.

㉕ EFFECT functions
In the effect-setting mode, you use the **MUSICAL DIRECTOR** to set a wide range of functions, including type and depth of **REVERB**, tremolo speed and touch effect.

㉖ MEMORY & CONTROL functions
The settable functions in this mode include memory initialization, **TECHNI-CHORD** harmony style, tuning, scale-effect, **VOICE SETTING COMPUTER** range, glide pitch-change, vibrato depth, switch assign, drum kit contents, fill-in pattern, and more.

㉗ SOUND EDIT
With this feature you select a preset sound, modity it until it sounds just the way you like it, and then store it in one of the memory locations. Edit and store up to 8 sounds for each of the UPPER and LOWER SOUND SELECT sections and up to 8 BASS sounds.

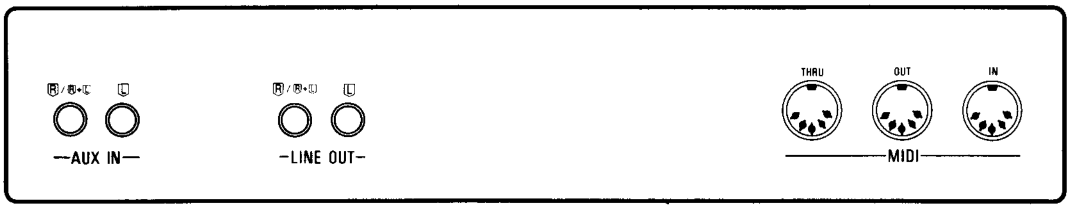
㉘ COMPOSER
Create original rhythm patterns, either in real-time or with the step method, or modify preset rhythms. Store up to 8 new rhythms in the reserved memory locations for instant recall as you play.

㉙ SEQUENCER
With this feature you can separately play and store the parts for an entire tune. Then have the hole ensemble performance played back automatically. This is a true 8-track sequencer, with full real-time recording, step recording and editing features.

㉚ Digital Disk Recorder (option)
The Digital Disk Recorder allows you to store up to 20 performances on a 3.5-in. 2DD memory disk.

TERMINALS

(On the rear panel)



■ **AUX IN** (input level 150mV, 10kΩ)

Use these inputs to connect the audio outputs of other audio equipment, such as a tape deck, VCR, tuner, or an audio mixer, for playback through the organ. This terminal runs through the expression pedal circuit and you can control the volume of the connected instrument with the expression pedal. If connecting a monaural line, connect it to the **R/R+L** terminal.

■ **LINE OUT** (output level 300mV, 600Ω)

Use these outputs to connect the audio output of the organ to other audio equipment, such as a tape deck, VCR, audio mixer, tone cabinets, or additional amplifier/speaker systems.

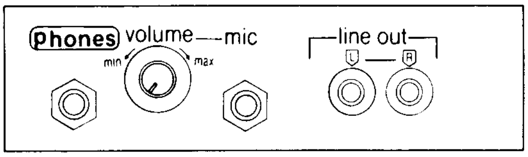
■ **MIDI (Musical Instrument Digital Interface)**

MIDI is standard specification that enables connection to equipment such as synthesizers and personal computers. Data transmission and reception are possible between the Technics organ and equipment provided with MIDI terminals.

IN:	The terminal that receives data from external equipment.
OUT:	The terminal that transmits data from the organ to external equipment.
THRU:	The terminal that transfers data from the **IN** terminal directly to other equipment.

- Use a 5-pin DIN cord (less than 15m long) for these connections.

(Below the lower keyboard)



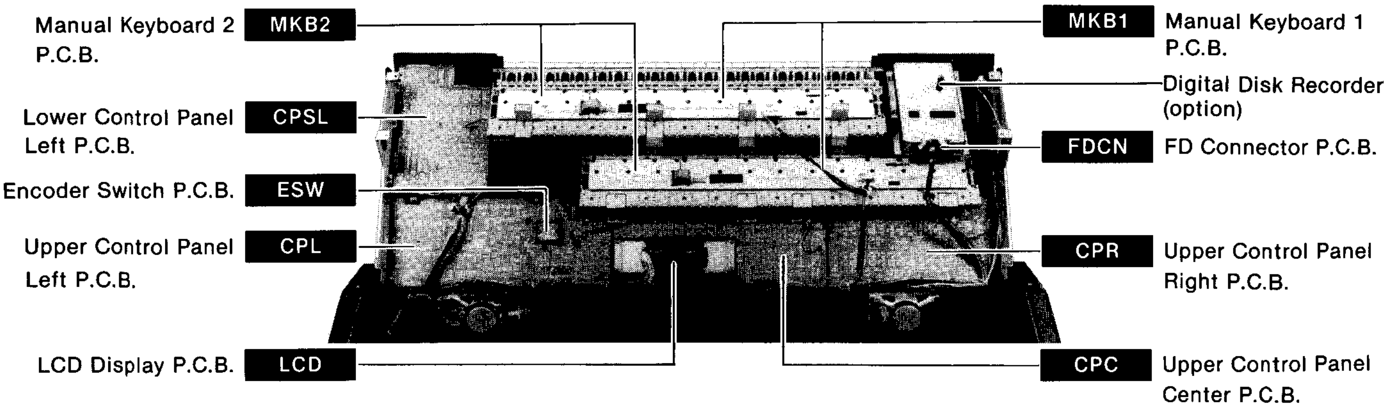
PHONES (Use headphones with 16 ohm impedance.)
For silent practice headphones may be used. When plugged in, the organ's speaker system is automatically switched off, and the entire organ is heard only through the headphones.

MIC (input level 7.5mV, 10kΩ)
The organ will accept a microphone of the uni-directional type. This type of microphone reduces feedback to the minimum.

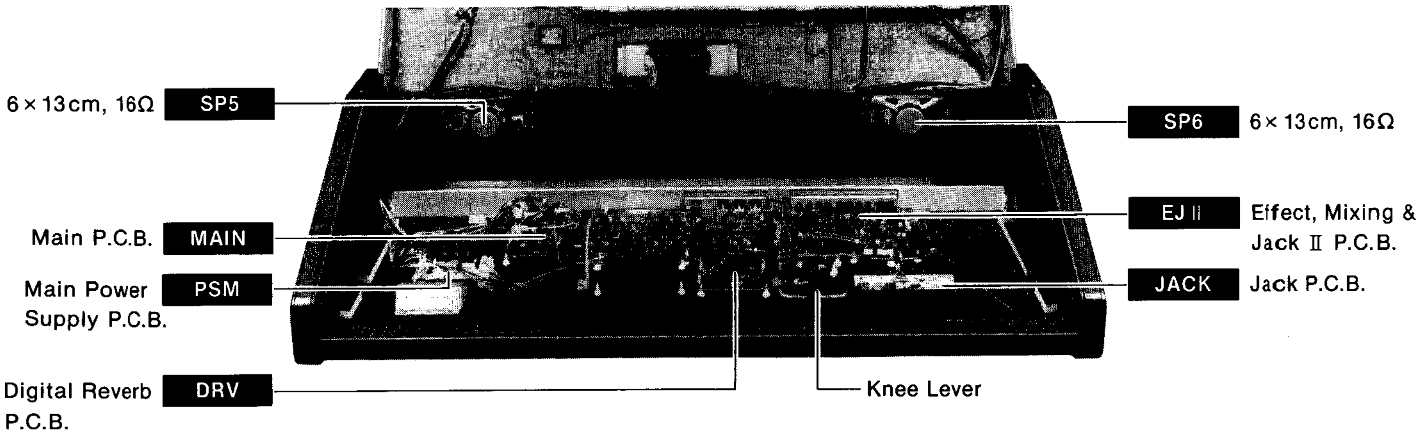
MIC VOLUME balances instrumental or vocal sounds fed into the microphone with the loudness of the organ.

LINE OUT (output level 300mV, 600Ω)
Phono jacks are provided for 2-channel (L/R) output. Use these outputs to connect the audio output of the organ to other audio equipment, such as a tape deck, VCR, audio mixer, tone cabinets, or additional amplifier/speaker systems.

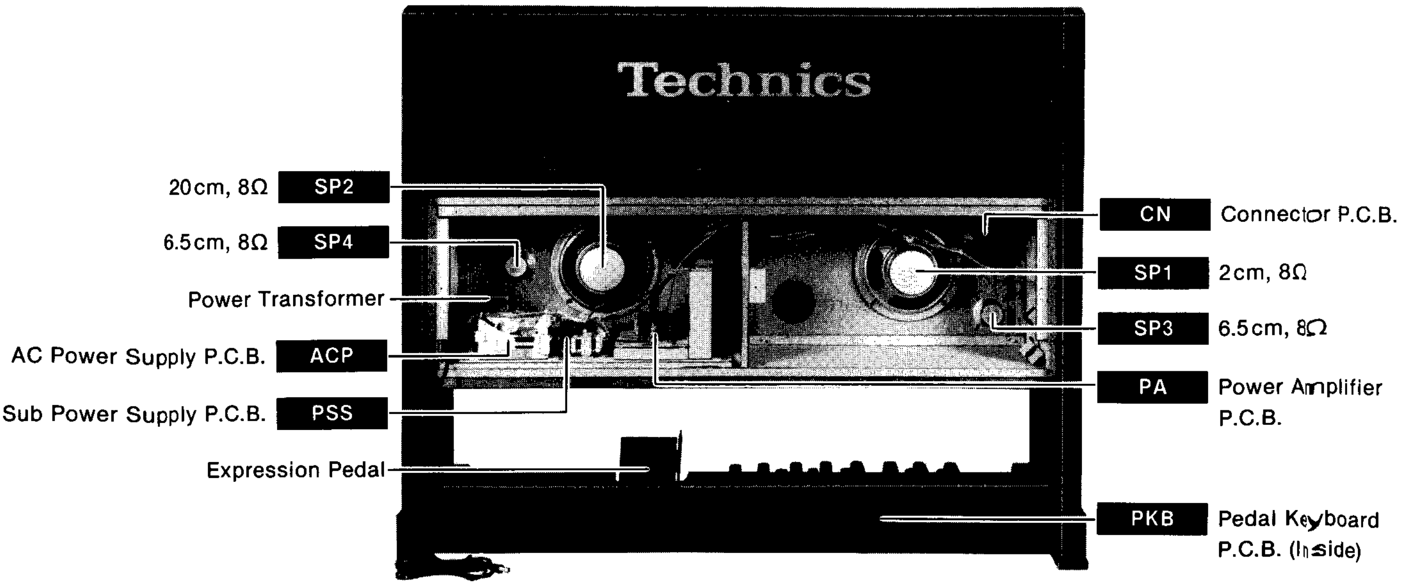
PARTS LOCATION


Manual Keyboard 2 P.C.B.
MKB2
Lower Control Panel Left P.C.B.
CPSL
Encoder Switch P.C.B.
ESW
Upper Control Panel Left P.C.B.
CPL
LCD Display P.C.B.
LCD
MKB1
Manual Keyboard 1 P.C.B.
Digital Disk Recorder (option)
FDCN
FD Connector P.C.B.
CPR
Upper Control Panel Right P.C.B.
CPC
Upper Control Panel Center P.C.B.

[Photo-1]


6 × 13cm, 16Ω
SP5
Main P.C.B.
MAIN
Main Power Supply P.C.B.
PSM
Digital Reverb P.C.B.
DRV
SP6
6 × 13cm, 16Ω
EJ II
Effect, Mixing & Jack II P.C.B.
JACK
Jack P.C.B.
Knee Lever

[Photo-2]

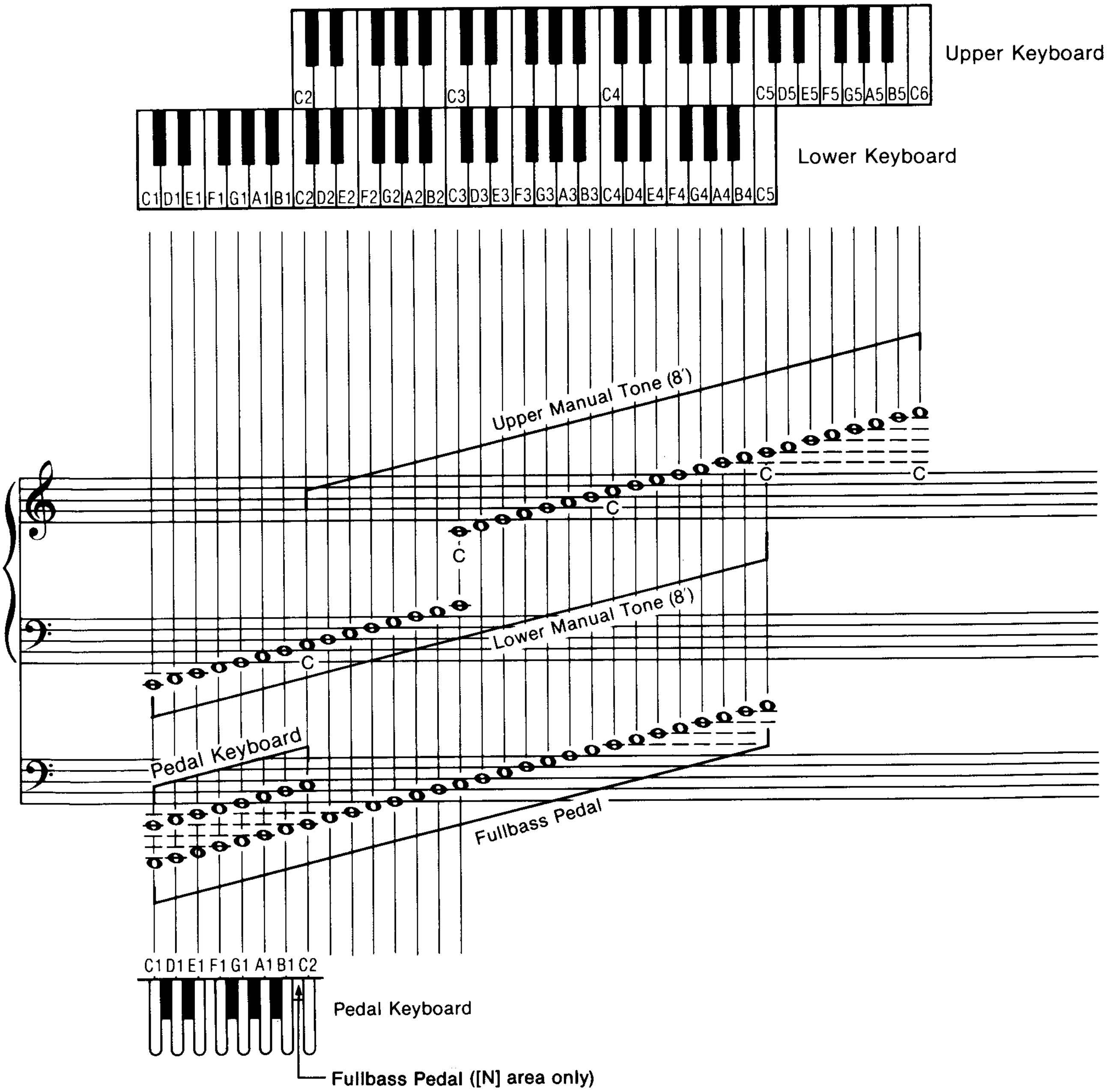

Technics
20cm, 8Ω
SP2
6.5cm, 8Ω
SP4
Power Transformer
AC Power Supply P.C.B.
ACP
Sub Power Supply P.C.B.
PSS
Expression Pedal
CN
Connector P.C.B.
SP1
2cm, 8Ω
SP3
6.5cm, 8Ω
PA
Power Amplifier P.C.B.
PKB
Pedal Keyboard P.C.B. (Inside)

[Photo-3]

KEYBOARD RANGES

Upper Keyboard.............49 Keys (4 Octaves)
Lower Keyboard.............49 Keys (4 Octaves)
Pedal Keyboard.............13 Keys (1 Octave)+Fullbass Pedal ([N] area only)

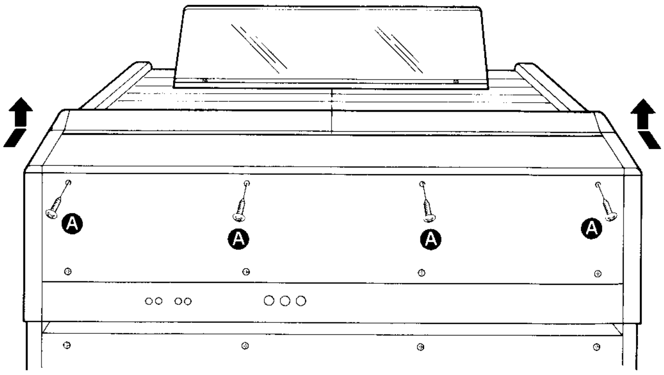
*An 8-foot compass is used for each keyboard.


Upper Keyboard
C2
C3
C4
C5 D5 E5 F5 G5 A5 B5 C6
Lower Keyboard
C1 D1 E1 F1 G1 A1 B1 C2 D2 E2 F2 G2 A2 B2 C3 D3 E3 F3 G3 A3 B3 C4 D4 E4 F4 G4 A4 B4 C5
Upper Manual Tone (8')
C
C
C
C
Lower Manual Tone (8')
C
Pedal Keyboard
Fullbass Pedal
C1 D1 E1 F1 G1 A1 B1 C2
Pedal Keyboard
Fullbass Pedal ([N] area only)

DISASSEMBLY INSTRUCTIONS

1 Top Cover

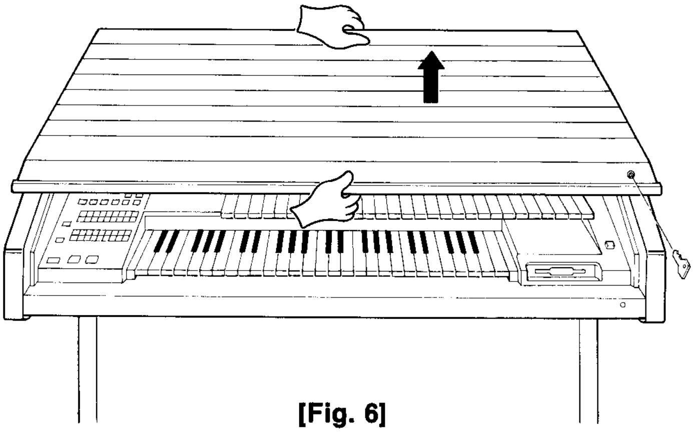
1. Remove the top cover holding screws located on the rear board. (Ⓐ 4 pcs.)
2. Remove the top cover, sliding it forward and lift.



[Fig. 5]

2 Sliding Cover

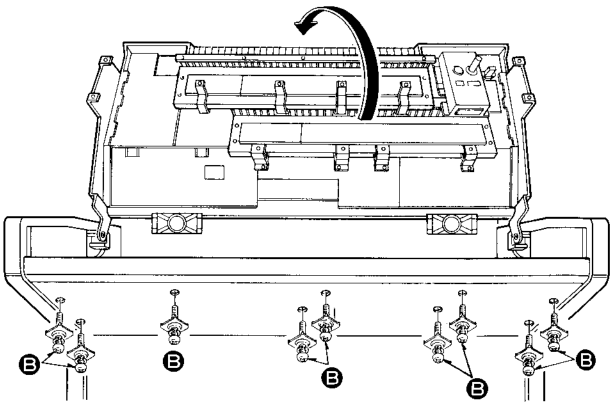
1. Remove the top cover. (See step 1.)
2. Unlock the sliding cover with the accessory key.
3. Remove the sliding cover in its fully closed position.



[Fig. 6]

3 Control Panel with Keyboard Unit

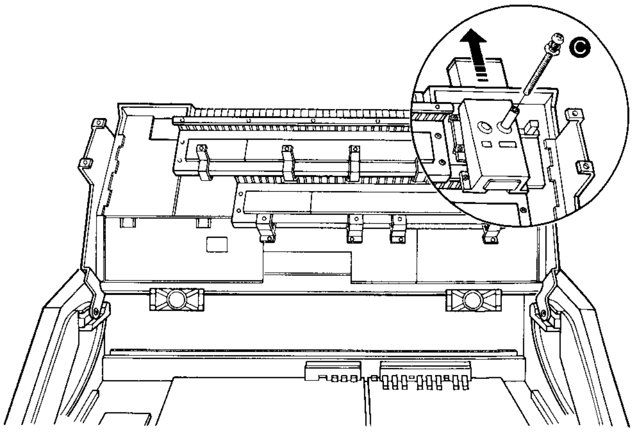
1. Remove both top cover and sliding cover. (See steps 1 and 2.)
2. Remove the control panel holding screws located under the upper cabinet. (Ⓑ 9 pcs.)
3. The control panel with keyboard unit can now opened upwards.



[Fig. 7]

4 Digital Disk Recorder: DDR (option)

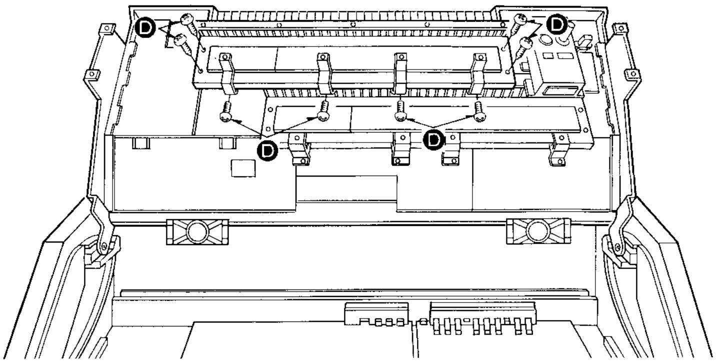
1. Open the control panel with keyboard unit. (See step 3.)
2. Remove the DDR holding screw. (Ⓒ 1 pcs.)
3. Pushing the DDR from the window of the chassis.
4. Then the DDR can be removed.



[Fig. 8]

5 Lower Keyboard Ass'y

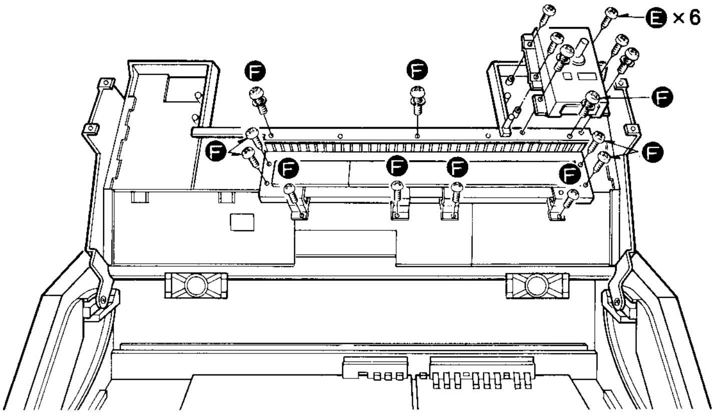
1. Open the control panel with keyboard unit. (See step 3.)
2. Remove the connectors from the keyboard P.C.B.
3. Remove the lower. keyboard ass'y holding screws. (Ⓓ 8 pcs.)
4. The lower keyboard ass'y can be removed.



[Fig. 9]

6 Upper Keyboard Ass'y

1. Open the control panel with keyboard unit. (See step 3.)
2. Remove the digital disk recorder and lower keyboard ass'y. (See step 4 and 5.)
3. Remove the connectors from the keyboard P.C.B. and FD connector P.C.B.
4. Remove the digital disk recorder mounting chassis. (Ⓔ 6 pcs.)
5. Remove the upper keyboard ass'y holding screws. (Ⓕ 11 pcs.)
6. The upper keyboard ass'y can be removed.



[Fig. 10]

7 Key (s)

Disassembly:

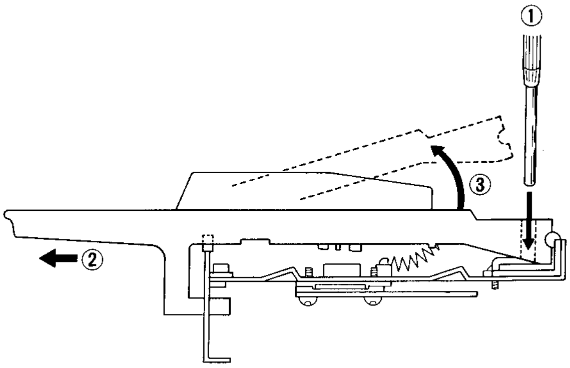
1. Remove the keyboard ass'y from the cabinet. (See steps 5 & 6.)
2. Use 1/8 inch Phillips screw driver and insert it to the hole at end of the key for release the key as shown in Fig. 11.
3. Pull the key to the toward.

Note:

If a black key is to be replaced it is necessary to remove both adjacent white keys fast.

Assembly:

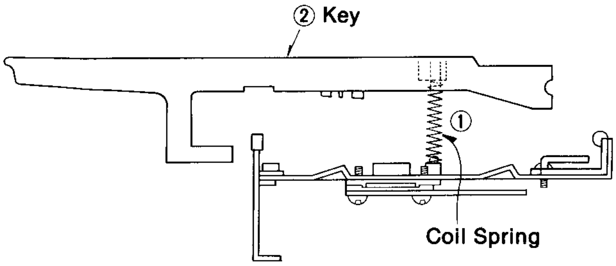
1. Place the coil spring on to the chassis as shown Fig. 12.
2. Place the key into position as shown Fig. 12.
3. The front part of the key suppose to place into the position first, then place the end of the key in to the position as shown Fig. 13.



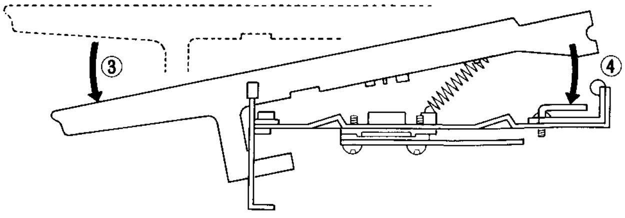
[Fig. 11]

Note:

If the black key and white key are removed, start to mount the black key first.



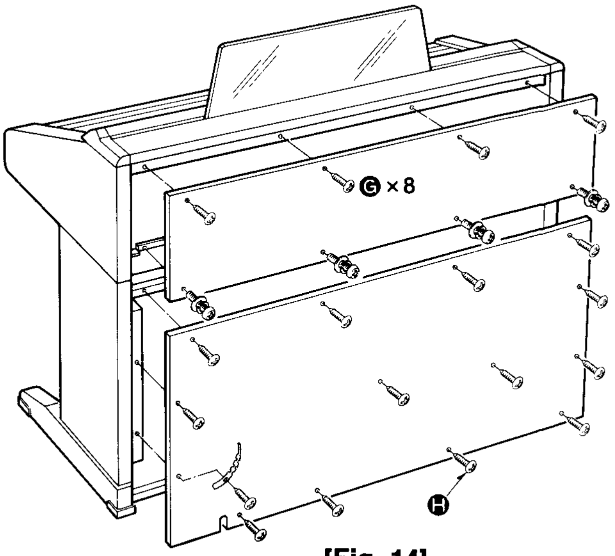
[Fig. 12]



[Fig. 13]

[8] Rear Board

1. Upper rear board
   Remove the upper rear board holding screws. (Ⓖ 8 pcs.)
2. Lower rear board
   Remove the lower rear board holding screws. (SX-GN3: Ⓗ 14pcs.), (SX-GN3K: Ⓗ 15pcs.)



[Fig. 14]

[9] Expression Pedal Ass'y

<SX-GN3>

1. Remove the lower rear board of the cabinet. (See step [8].)
2. Remove the expression pedal mounting screws. (Fig. 15 Ⓘ 4pcs.)
3. The expression pedal can be removed.

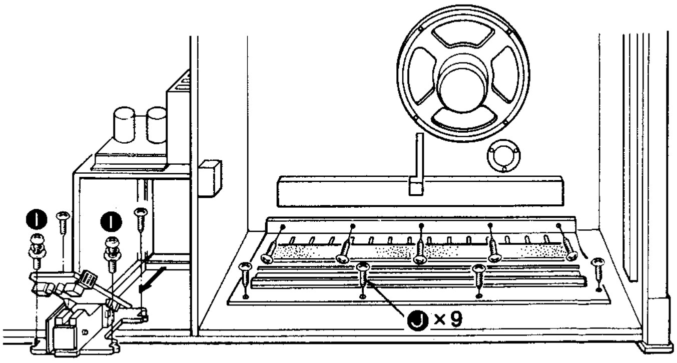
<SX-GN3K>

1. Remove the expression pedal unit holding screws. (Fig. 16 Ⓚ 4pcs.)

[10] Pedal Keyboard Ass'y

<SX-GN3>

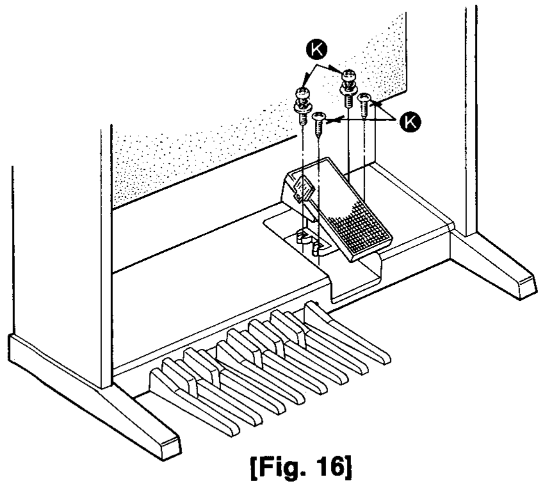
1. Remove the lower rear board of the cabinet. (See step [8].)
2. Remove the pedal keyboard holding screws. (Fig. 15 Ⓙ 9pcs.)
3. Tilt the entire unit a little to toward to the rear very carefully for easier to take the pedal keyboard out from the bottom wood board.



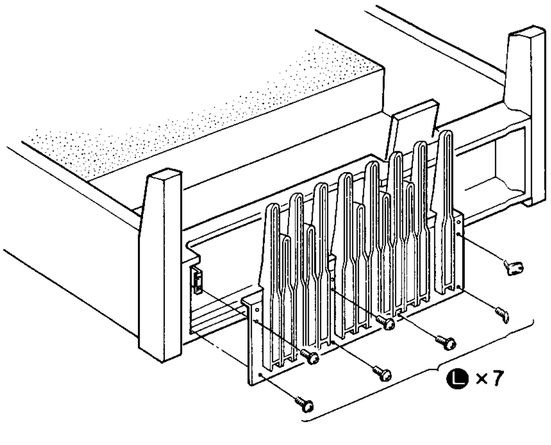
[Fig. 15]

<SX-GN3K>

1. Remove the pedal keyboard holding screws. (Fig. 17 Ⓛ 7pcs.)



[Fig. 16]



[Fig. 17]

MEASUREMENTS AND ADJUSTMENTS

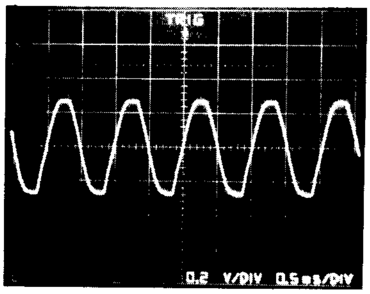
■ Measuring Equipment

- Oscilloscope 20MHz, 10: 1 probe
- Capacitor, 50V 1μF (ECEA1HN010S)
- Oscillator, 1kHz sine wave, 0~10Vp-p, 600Ω

ADJUSTMENT	MEASURING CONDITIONS	EQUIPMENT	ADJUSTMENT P.C.B.	ADJ. POINT	CONNECT METER TO	METER READING
BBD Bias (TREMOLO)	any position	Oscilloscope and oscillator	EJ II P.C.B.	VR1	IC15-⑦ pin	Photo-A
	1. Connect the oscilloscope to IC15-⑦ pin of EJ II circuit board. 2. Input 1kHz sine wave to IC14-③ pin by oscillator through capacitor of less than 50V 1μF. Then, adjust the output level of oscillator until the sinewave on the oscilloscope is clipped. 3. Adjust VR1 so that the output waveforms on the oscilloscope are evenly clipped at top and bottom.					
BBD Bias (CELESTE)	any position	Oscilloscope and oscillator	EJ II P.C.B.	VR2	IC33-① pin	Photo-A
	1. Connect the oscilloscope to IC33-① pin of EJ II circuit board. 2. Input 1kHz sine wave to IC31-③ pin by oscillator through capacitor of less than 50V 1μF. Then, adjust the output level of oscillator until the sinewave on the oscilloscope is clipped. 3. Adjust VR2 so that the output waveforms on the oscilloscope are evenly clipped at top and bottom.					

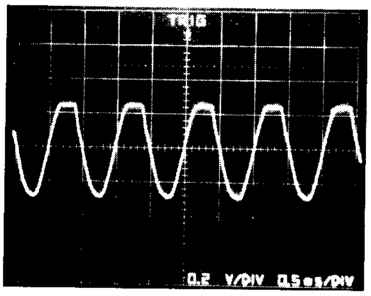
BBD bias adjustment

○: Good



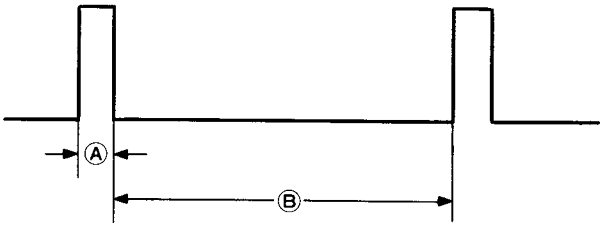
[Photo-A]

×: Fault



[Photo-B]

ADJUSTMENT	MEASURING CONDITIONS	EQUIPMENT	ADJUSTMENT P.C.B.	ADJ. POINT	CONNECT METER TO	METER READING
EXP. Control pulse width	Main volume ....max. Expression pedal ....max. any key ....on	Oscilloscope	EJ II P.C.B.	VR3	IC51-⑫ pin	Fig. A
	1. Connect the oscilloscope to IC51-⑫ pin of EJ II circuit board. 2. Adjust the VR3 so that the pulse width Ⓐ and Ⓑ ratio, as shown in Fig. A.					



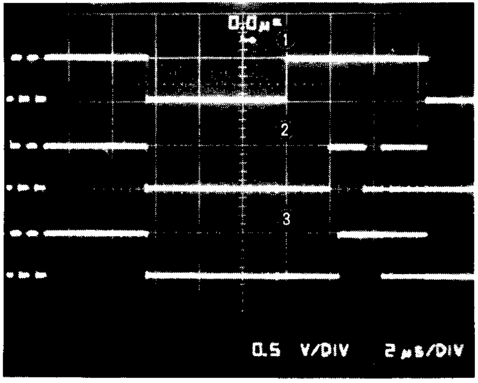
Ⓐ:Ⓑ=1: 9

[Fig. A]

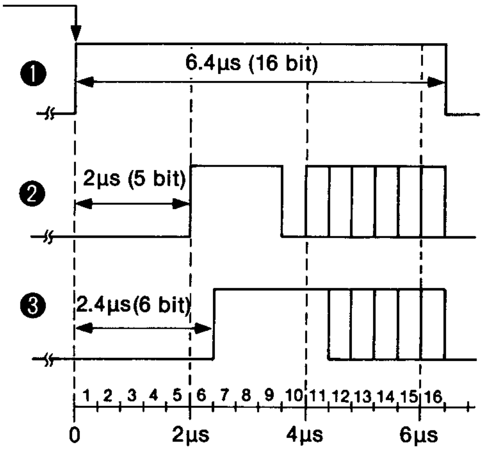
ADJUSTMENT	MEASURING CONDITIONS	EQUIPMENT	ADJUSTMENT P.C.B.	ADJ. POINT	CONNECT METER TO	METER READING
DRV bias	any position	Oscilloscope	DRV P.C.B.	VR1	Check Point ⑫, ⑬	Photo-C Fig. B

1. Connect the oscilloscope channel 1 to DRV circuit check point ⑫ and connect the oscilloscope external trigger in to DRV check point ⑬.
   (oscilloscope Diviation setting must be=0.5V/DIV, 2μs/DIV)
2. Turn the adjustment VR1 to full clockwise.
3. Turn the VR1 counter-clockwise gradually to find the data starting point turns to HIGH (refer photo C-❶, & Fig. B-❶) and adjust the strating point to the oscilloscope diviation line for easy counting for next procedure.
4. Confirm the first 5 bits (2.0μs) are low when turn the VR1 to full counter-clockwise. (refer photo C-❷, Fig. B-❷)
5. Turn the VR1 clockwise gradually and make first 6 bits (2.4μs) turn to low. (refer photo C-❸, Fig. B-❸)

Data starting point



[Photo-C]

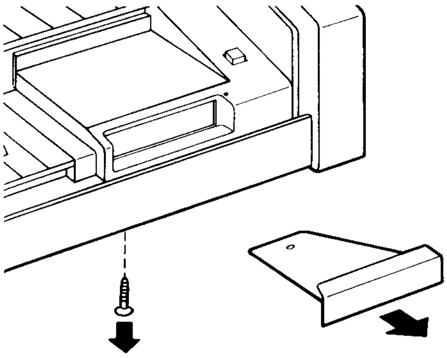


[Fig. B]

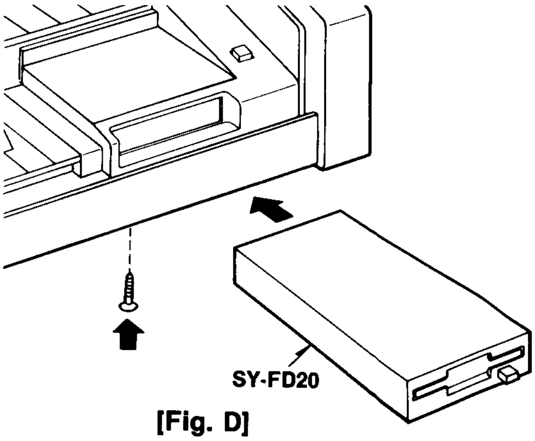
HOW TO INSTALL THE DIGITAL DISK RECODER

■ The SY-FD20 Digital Disk Recoder is an option.
When using the optional Digital Disk Recoder (SY-FD20), installing in the Technics organ as instructed below.

1. Make sure that the Technics organ is turned off.
2. Remove the screw from under the right side of the keyboard. The cover can now be removed from the Digital Disk Recorder compartment.
3. Insert the Digital Disk Recorder into the compartment opening and push it in firmly as far as it will go. Secure the Digital Disk Recorder with the screw that you removed in step **2**.



[Fig. C]



[Fig. D]

PRECAUTIONS BEFORE SERVICING

■ Precautions for measuring of the output waveforms.

1. Set to the INITIAL mode before measurement. (Refer to page I-3.)
2. After INITIAL mode, set the measurement conditions as each check points.
3. The waveform was measured by "National Digital Storage Oscilloscope VP-5730A". Therefore the waveforms of musical tone signals shown may somewhat change due to variation of timing of triggering.
4. Since the 1/10 of the test probe is used, the indicated voltage value on bottom part of the each waveform photo is 1/10 of the actual value. (e.g. 0.2V/cm should be 2.0V/cm)

■ Important safety notice:

Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

■ Symbolic Marks

The symbolic marks for resistors and capacitors which used in this circuits are classified as following TABLE-1 and TABLE-2.

1. RESISTORS
   - Resistors without symbolic mark are FIXED CARBON FILM RESISTORS (ERD-type).
   - All resistors are 1/4WATT, ±5% TOLERANCE unless otherwise designated in the schematic diagrams.

(TABLE-1)

SYMBOL	SPECIFICATION	SYMBOL	SPECIFICATION
Ⓕ	Fixed Carbon Film Resistors "FLAME-PROOF" (ERD—F—type)	Ⓕ	Fixed Metal Film Resistors "FLAME-PROOF" (ERX—type)
Ⓕ	Fixed Wire Wound Resistors "FLAME-PROOF" (ERF—type)	🄵	Fuse Type Fixed Metal Oxide Film Resistors "FLAME-PROOF" (ERQ—type)
Ⓕ	Fixed Metal Oxide Film Resistors "FLAME-PROOF" (ERG—type)	🄵	Fuse Type Fixed Carbon Film Resistors "FLAME-PROOF" (ERD2FC—type)
Ⓖ	Fixed Metal Film Resistors (Precision and High Stability) (ERO—type)		

2. CAPACITORS
   - Capacitors without symbolic mark are POLYESTER CAPACITORS. (ECQM-type, ECQG-type, ±10% Tolerance)
   - Polarized capacitors without symbolic mark are Aluminum Electrolytic Capacitors. (ECEA—type, ±20% Tolerance)

(TABLE-2)

SYMBOL	SPECIFICATION	TYPE
Ⓝ	Non-Polarised Electrolytic Capacitors	ECEA−KN−type
Ⓨ	Non-Polarised Electrolytic Capacitors (for Network System)	ECEA−Y−type
(MS)	Aluminum Electrolytic Capacitors (Low leakage current type)	ECEA−M−type
Ⓩ	Aluminum Electrolytic Capacitors (Low impeadance type)	ECEA−Z−type
(TF)	Metalized Plastic Film Capacitors (TF Series)	ECQV−type
	Polyester Film Capacitors	ECQB−type
○	Temprature Compensating Ceramic Capacitors	ECC−type
	High-Dielectric Constant Ceramic Capacitors	ECK−type ECR−type
	Metalized Polyester Film Capacitors for Across the Line	ECQ−EW−type
	Aluminum Electrolytic Capacitors for smooting Circuit	ECES−type
Ⓣ	Tantalum Solid Electrolytic Capacitors	ECS−type

SYMPTOMS WHICH APPEAR TO BE SIGNS OF TROUBLE

The following changes in performance may occur in the Technics organ but do not indicate trouble:

■ SOUNDS and EFFECTS

Phenomenon	Remedy
The buttons, keys, etc. malfunction.	•Turn off the **PLAY** button once, then turn it on again. •If the above procedure is not successful, turn off the **PLAY** button once. Then, while pressing **16 BEAT 1**, **16 BEAT 2** and **16 BEAT BALLAD** in the **RHYTHM** section at the same time, turn the **PLAY** button on again. (Note that, in this case, the stored contents of the **SEQUENCER**, **COMPOSER**, etc. are erased.)
When a key is pressed, it does not sound.	The buttons and keys do not function when the **DEMO** ♪ button is on. Press the **DEMO** ♪ button to turn it off.
The sound of a part cannot be heard.	•The corresponding volume is set to off in the **ORCHESTRAL CONDUCTOR**. Use the ⇕ buttons below the display to adjust the volume for that part to an appropriate level. •The LOCAL CONTROL for the part is set to OFF. Set the LOCAL CONTROL to ON.
When the **TAB & ORGAN** is selected in the **ORCHESTRAL CONDUCTOR**, it does not sound.	If all the **FLUTE** and **PERC** buttons are off while the **TAB & ORGAN** button is on, it does not sound. Turn on the **FLUTE** or **PERC** button to select the sound.
When many keys are pressed at the same time, some sounds cannot be heard.	•The DUAL mode is selected. •MONO or SOLO mode is selected with the PART ASSIGN function.
The sound of the lower keyboard or pedal keyboard does not stop.	This occurs if the lower keyboard is played when the **FINGERED 1** or **2** and the **MEMORY** buttons are on. Turn off the **MEMORY** button.
The knee lever, foot switch(es) and full bass pedal do not operate properly. For example, the knee lever does not turn the **SUSTAIN** function on and off.	Any functional on and off operation other than the factory presets are storable in these switches. For example, the knee lever can turn the **TECHNI-CHORD** on and off. Store your favorite functions to turn them on and off.

■ RHYTHM

The rhythm does not start.	•The **DRUMS** button in the **VOLUME** section is turned off. •A **COMPOSER** number button in which no data is stored has been selected. •When a **SEQUENCER** track button(s) is on, the rhythm will not start unless the rhythm part has been stored. •When the clock mode is set to MIDI, the rhythm does not start if no MIDI clock signal is received from another instrument. When using only the organ, return the clock mode to the internal clock, for example by turning off the **PLAY** button once.

■ AUTO PLAY CHORD

The **ACCOMP 1**, **2** or **3** part does not sound when the automatic accompaniment is used.	•When both the **ACCOMP 1** and **2&3** buttons of the **ARRANGER** are off, the **ACCOMP** part of the **AUTO PLAY CHORD** or **COMPOSER** function does not sound. Turn on the desired **ACCOMP 1** or **2&3** button. •When the lower keyboard is played with the **KEYBOARD PERCUSSION**, **ACCOMP** and **BASS** automatic accompaniment patterns do not sound. Play the chord on the lower keyboard after pressing the **KEYBOARD PERCUSSION** button to turn it off.

Phenomenon	Remedy

■ SOUND EDIT

When a chord is played on the keyboard, each key sounds different.	DUET or TRIO mode sound is composed of multiple tones. When a chord is played, different tones are assigned to each key.

■ COMPOSER

Storage is not possible.	•The remaining storage capacity of the **COMPOSER** memory is 0. Erase any **COMPOSER** memory number in which a pattern is stored. Save it in a memory disk (SY-D20), if necessary. •In the real-time recording mode, press the **START/STOP** button when the display is **PAGE 3**, and recording will start.
The setting of the time signature or the number of measures is not possible.	The time signature or the number of measures cannot be changed when a pattern is stored in the **COMPOSER**. Erase the stored pattern.
The stored rhythm pattern plays back at intervals.	This occurs when the number of stored measures is less than the specified number. Store a pattern of the same number of measures which is specified on the **PAGE 2** display.
The timing of a rhythm pattern which was stored in the real-time mode is not correct.	The smallest note unit that can be stored is defined by setting the QUANTIZE level. When the timing of a played note is off for the QUANTIZE level, it will be corrected to the nearest note unit and stored.

■ SEQUENCER

Storage is not possible.	•The indicator for the track to be used is not flashing. •The remaining storage capacity of the **SEQUENCER** memory is 0. Erase other memory contents with the TRACK CLEAR or SONG CLEAR function. (If desired, first save them in a memory disk [SY-D20].)
Multi-track recording does not work.	When the indicator for the playback track is lit, press the **START/STOP** button to start recording.
The displayed measure number during recording or playback does not coincide with the performance.	The number of measures corresponds to the time signature of the rhythm which was selected at the beginning of recording or playback. If the time signature is modified by changing the rhythm, store the rhythm change data in the **RHYTHM** track.
The automatic rhythm does not start when playback has been started during the performance.	When automatic playback is begun at a point after the stored rhythm start, the rhythm will not start.

■ DIGITAL DISK RECORDER (option)

The Digital Disk Recorder produces a noise during storage or automatic performance.	This occurs when the Digital Disk Recorder searches for a storage location. It does not indicate a problem.
When the operation to load from the memory disk is performed, the contents of the organ's internal memory are erased.	When performing the load operation from a memory disk, the organ's internal memory changes to that stored in the memory disk. To preserve a song in the organ's memory, save it in a memory disk before performing the load procedure.

ERROR DISPLAY

■ COMPOSER/SEQUENCER

Display	Cause
MEMORY full!!	• The **COMPOSER** or **SEQUENCER** memory is full.
MEASURE error!!	• A measure number which does not exist was specified. • The measure number was specified improperly.
REPEAT exists	• You attempted to use the copy, insert or delete procedure for a **SEQUENCER** chord track or rhythm track in which a repeat mark is stored.
PART error!!	• Illegal edit attempt, such as in a melody track or rhythm track.
DATA exists	• You attempted to use the **COMPOSER** function to modify a beat or measure of memory where a pattern was stored.
TRACK error!!	• You attempted to edit a **SEQUENCER** track in which no song or data is stored.
OPERATION error!!	• Recording is ending with no punch out point specified (the punch in point was specified).

■ MEMORY DISK

Display	Cause
LOAD error!!	• Loading failed.
SAVE error!!	• Saving failed.
DELETE error!!	• Deleting a song failed.
VERIFY error!!	• Data verification failed. • Loaded, saved, or copied data has errors.
FORMAT error!!	• Formatting failed.
NO DISK	• A memory disk is not inserted.
PROTECT error!!	• You attempted to save to a memory disk which is write protected.
SONG NOT FOUND	• You attempted to load a song which does not exist in the memory disk.
DISK FULL!!	• Available memory area on the memory disk is full. Erase some stored tunes on the memory disk or use a new memory disk.

MIDI INPLEMENTATION CHART

Organ

[SX-GN3(K)/SX-GN5(K)/SX-GN7(K)/SX-GN9(K)] **(Transmitted)**

Function		UPPER POLY	UPPER SPECIAL SOLO (GN3/GN5)/ EXTRA (GN7/GN9)	LOWER POLY	LOWER SPECIAL SOLO (GN3/GN5)/ EXTRA (GN7/GN9)	ACCOMP 1~3	BASS	DRUMS	CONTROL	Remarks
Basic Channel	Default	1~16	1~16	1~16	1~16	1~16	1~16	1~16	1~16	memorized
	Changed	1~16	1~16	1~16	1~16	1~16	1~16	1~16	1~16	
Mode	Default	3	3	3	3	3	3	3	3	OMNI OFF POLY MODE
	Messages	×	×	×	×	×	×	×	×	
	Altered	—	—	—	—	—	—	—	—	
Note Number		0~127	0~127	0~127	0~127	0~127	0~127	0~127	—	Changes depending on the position of the Octave Shift or Transpose control.
	True voice	—	—	—	—	—	—	—	—	
Velocity	Note ON	○	○	○	○	○	○	○	—	
	Note OFF	× (9nH:v=0)	× (9nH:v=0)	× (9nH:v=0)	× (9nH:v=0)	× (9nH:v=0)	× (9nH:v=0)	× (9nH:v=0)	—	
After Touch	Key's	×	×	×	×	×	×	×	×	
	Ch's	× *○ × (GN9)	× *○ × (GN9)	× *○ × (GN9)	× *○ × (GN9)	×	×	×	×	
Pitch Bender		× *○ × (GN9)	× *○ × (GN9)	× *○ × (GN9)	× *○ × (GN9)	× *○ × (GN9)	× *○ × (GN9)	×	×	
Control Change	1	*○ ×	*○ ×	*○ ×	*○ ×	*○ ×	*○ ×	×	×	modulation (GN9)
	7	*○ ×	*○ ×	*○ ×	*○ ×	*○ ×	*○ ×	*○ ×	*○ ×	volume main volume
	11	×	×	×	×	×	×	×	*○ ×	expression pedal
	64	*○ ×	*○ ×	*○ ×	*○ ×	*○ ×	*○ ×	×	×	sustain
	80	×	×	*○ ×	×	×	×	×	×	auto play chord
	82	×	×	×	×	×	×	*○ ×	×	intro, fill in, ending
	92	*○ ×	×	*○ ×	×	×	×	×	×	tremolo
	93	*○ ×	*○ ×	*○ ×	*○ ×	*○ ×	*○ ×	×	×	chorus (effect 2) (GN9)
	94	*○ ×	*○ ×	*○ ×	*○ ×	*○ ×	× (GN3/GN5) *○ × (GN7/GN9)	×	×	celeste (effect 1)
Prog Change		*○ ×	*○ ×	*○ ×	*○ ×	*○ ×	*○ ×	*○ ×	× (GN3/GN5) *○ × (GN7/GN9)	
	True #	—	—	—	—	—	—	—	—	
System exclusive		×								
System Common	Song Pos	*○ ×								
	Song Sel	*○ ×								0~19
	Tune	×								
System Real Time	Clock	○								
	Commands	*○ ×								start/stop/continue
Aux Messages	Local ON/OFF	×	×	×	×	×	×	×	—	
	All notes OFF	○	○	○	○	○	○	○	—	
	Active Sense	○								
	Reset	×								
Notes		*○ ×............Whether or not the data for each of these items is transmitted can be set.								

Mode 1: OMNI ON, POLY **Mode 2:** OMNI ON, MONO ○: Yes
Mode 3: OMNI OFF, POLY **Mode 4:** OMNI OFF, MONO ×: No

Organ

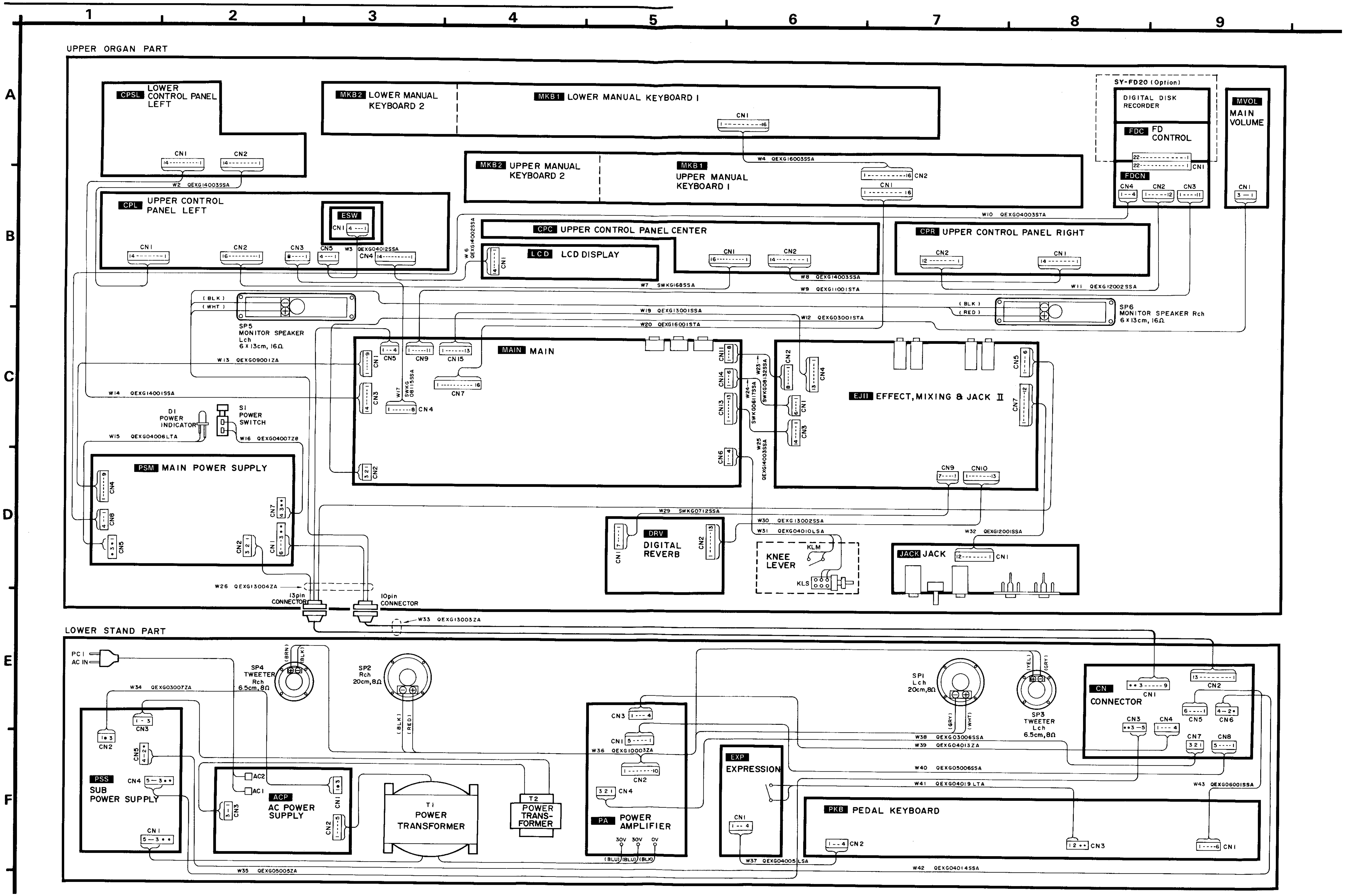
[SX-GN3(K)/SX-GN5(K)/SX-GN7(K)/SX-GN9(K)] (Recognized)

Function		UPPER POLY	UPPER SPECIAL SOLO (GN3/GN5)/ EXTRA (GN7/GN9)	LOWER POLY	LOWER SPECIAL SOLO (GN3/GN5)/ EXTRA (GN7/GN9)	ACCOMP 1~3	BASS	DRUMS	CONTROL	Remarks
Basic Channel	Default Changed	1~16 1~16	1~16 1~16	1~16 1~16	1~16 1~16	1~16 1~16	1~16 1~16	1~16 1~16	1~16 1~16	memorized
Mode	Default Messages Altered	3 × —	3 × —	3 × —	3 × —	3 × —	3 × —	3 × —	3 × —	OMNI OFF POLY MODE
Note Number	True voice	0~127 24~119	0~127 24~119	0~127 24~119	0~127 24~119	0~127 24~119	0~127 24~95	0~127 36~74 (GN3/GN5) 36~83 (GN7/GN9)	— —	Changes depending on the position of the Octave Shift or Transpose control.
Velocity	Note ON Note OFF	○ ×	○ ×	○ ×	○ ×	○ ×	○ ×	○ ×	— —	
After Touch	Key's Ch's	× × *○× (GN9)	× × *○× (GN9)	× × *○× (GN9)	× × *○× (GN9)	× ×	× ×	× ×	× ×	
Pitch Bender		*○×	*○×	*○×	*○×	*○×	*○×	×	×	
Control Change	1	*○×	*○×	*○×	*○×	*○×	*○×	×	×	modulation
	7	*○×	*○×	*○×	*○×	*○×	*○×	*○×	*○×	volume main volume
	11	×	×	×	×	×	×	×	*○×	expression pedal
	64	*○×	*○×	*○×	*○×	*○×	*○×	×	×	sustain
	80	×	×	*○×	×	×	×	×	×	auto play chord
	82	×	×	×	×	×	×	*○×	×	intro, fill in, ending
	92	*○×	×	*○×	×	×	×	×	×	tremolo
	93	*○×	*○×	*○×	*○×	*○×	*○×	×	×	chorus (effect 2) (GN9)
	94	*○×	*○×	*○×	*○×	*○×	× (GN3/GN5) *○× (GN7/GN9)	×	×	celeste (effect 1)
Prog Change	True #	*○× 0~23/0~7** 0~29/0~7** 0~35/0~15**	*○× 0~23 0~29 0~35	*○× 0~23 0~29 0~35	*○× 0~23 0~29 0~35	*○× 0~15 0~19 0~23	*○× 0~15 0~23 0~23	*○× 0~39 0~39 0~39	× (GN3/GN5) *○× (GN7/GN9) — 0~8 0~8	(GN3/GN5) (GN7) (GN9)
System exclusive		×								
System Common	Song Pos Song Sel Tune	*○× *○× ×								0~19
System Real Time	Clock Commands	○ *○×								start/stop/continue
Aux Messages	Local ON/OFF All notes OFF	× ○	× ○	× ○	× ○	× ○	× ○	× ○	— —	
	Active Sense Reset	○ ×								
Notes		*○×.............Whether or not the data for each of these items is received can be set. ** VSC Program Change								

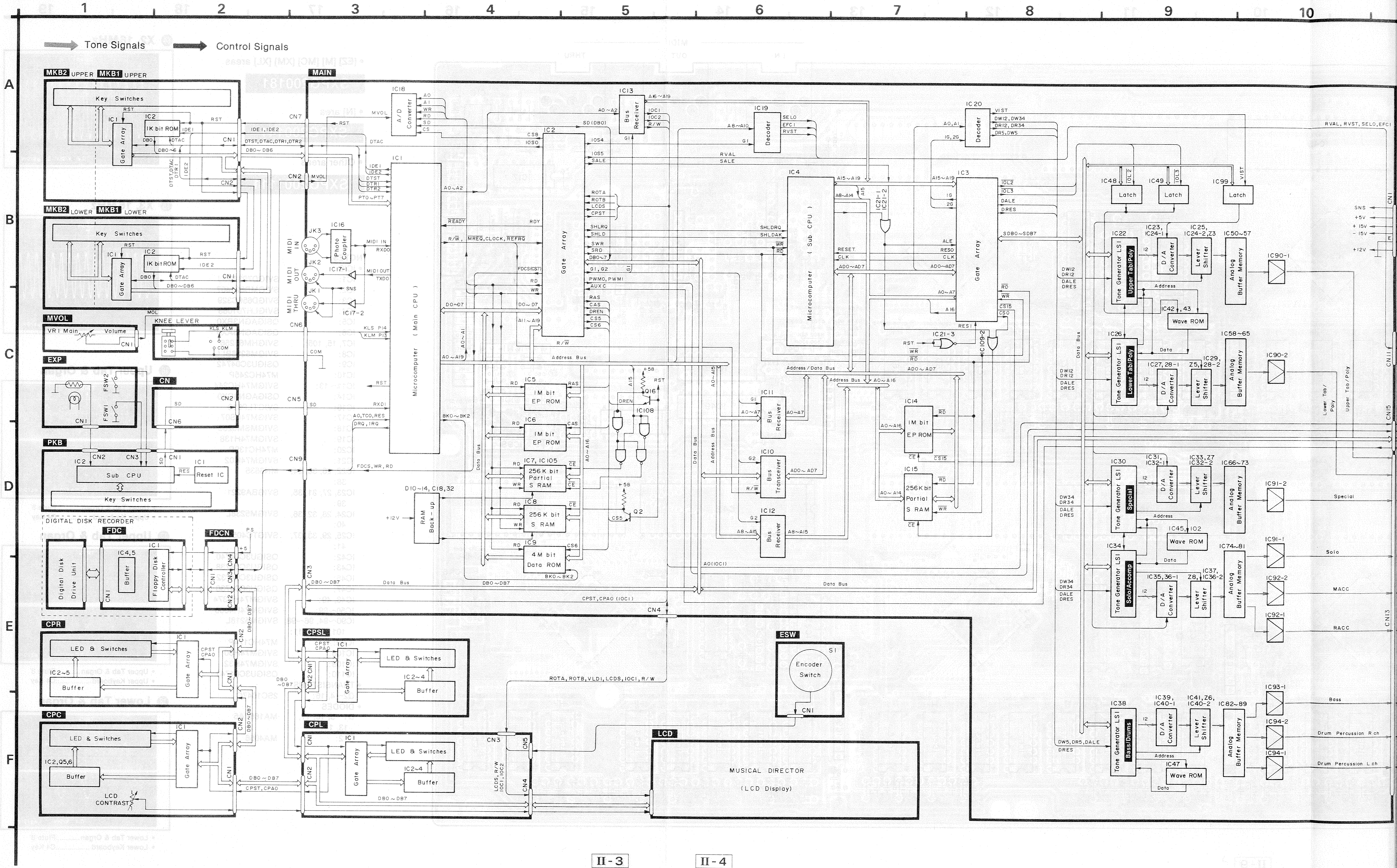
Mode 1: OMNI ON, POLY **Mode 2:** OMNI ON, MONO ○: Yes
Mode 3: OMNI OFF, POLY **Mode 4:** OMNI OFF, MONO ×: No

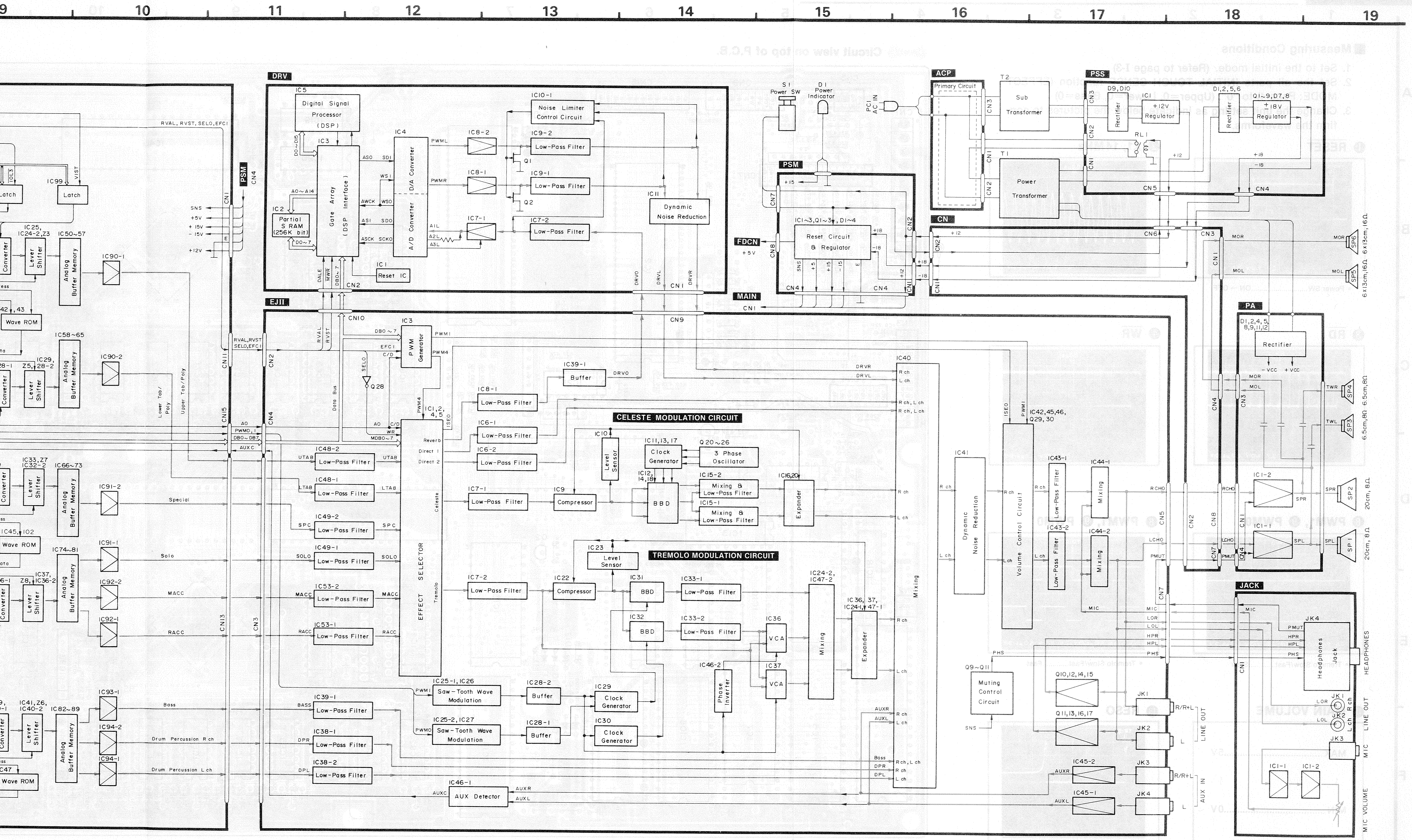
MEMO

WIRING CONNECTION DIAGRAM


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
UPPER ORGAN PART
CPSL LOWER CONTROL PANEL LEFT
CN1
CN2
W2 QEXG14003SSA
MKB2 LOWER MANUAL KEYBOARD 2
MKB1 LOWER MANUAL KEYBOARD 1
W4 QEXG16003SSA
MKB2 UPPER MANUAL KEYBOARD 2
MKB1 UPPER MANUAL KEYBOARD 1
SY-FD20 (Option)
DIGITAL DISK RECORDER
FDC FD CONTROL
FDCN
CN4
CN3
MVOL MAIN VOLUME
CPL UPPER CONTROL PANEL LEFT
ESW
CN5
W3 QEXG04012SSA
W5 QEXG14002SSA
W10 QEXG04003STA
CPC UPPER CONTROL PANEL CENTER
LCD LCD DISPLAY
CPR UPPER CONTROL PANEL RIGHT
W7 SWKG168SSA
W8 QEXG14003SSA
W9 QEXG11001STA
W11 QEXG12002SSA
(BLK)
(WHT)
(RED)
SP5 MONITOR SPEAKER Lch 6×13cm, 16Ω
SP6 MONITOR SPEAKER Rch 6×13cm, 16Ω
W19 QEXG13001SSA
W20 QEXG16001STA
W12 QEXG03001STA
W13 QEXG09001ZA
W14 QEXG14001SSA
MAIN MAIN
CN9
CN15
CN7
CN11
CN14
CN13
CN6
W17 SWKG08115SSA
W23 SWKG08132SSA
W24 SWKG06117SSA
W25 QEXG14003SSA
EJII EFFECT, MIXING & JACK II
CN10
D1 POWER INDICATOR
S1 POWER SWITCH
W15 QEXG04006LTA
W16 QEXG04007ZB
PSM MAIN POWER SUPPLY
CN8
W29 SWKG0712SSA
W30 QEXG13002SSA
W31 QEXG04010LSA
W32 QEXG12001SSA
DRV DIGITAL REVERB
KLM
KNEE LEVER
KLS
JACK JACK
W26 QEXG13004ZA
13pin CONNECTOR
10pin CONNECTOR
W33 QEXG13003ZA
LOWER STAND PART
PC1 AC IN
W34 QEXG03007ZA
SP4 TWEETER Rch 6.5cm, 8Ω
(BRN)
SP2 Rch 20cm, 8Ω
SP1 Lch 20cm, 8Ω
(YEL)
(GRY)
SP3 TWEETER Lch 6.5cm, 8Ω
CN CONNECTOR
PSS SUB POWER SUPPLY
AC2
AC1
ACP AC POWER SUPPLY
T1 POWER TRANSFORMER
T2 POWER TRANS-FORMER
W36 QEXG10003ZA
PA POWER AMPLIFIER
30V 30V 0V
(BLU) (BLU) (BLK)
EXP EXPRESSION
W37 QEXG04005LSA
W38 QEXG03006SSA
W39 QEXG04013ZA
W40 QEXG05006SSA
W41 QEXG04019LTA
W43 QEXG06001SSA
PKB PEDAL KEYBOARD
W42 QEXG04014SSA
W35 QEXG05005ZA

BLOCK DIAGRAM


Tone Signals
Control Signals
MKB2 UPPER MKB1 UPPER
Key Switches
IC1 Gate Array
IC2 1K bit ROM
MKB2 LOWER MKB1 LOWER
MVOL
VR1 Main Volume
KNEE LEVER
EXP
FSW1
FSW2
CN
PKB
Sub CPU
Reset IC
DIGITAL DISK RECORDER
FDC
Digital Disk Drive Unit
IC4,5 Buffer
IC1 Floppy Disk Controller
FDCN
CPR
LED & Switches
IC2~5 Buffer
CPC
IC2,Q5,6 Buffer
LCD CONTRAST
MAIN
IC18 A/D Converter
IC1 Microcomputer (Main CPU)
IC2 Gate Array
IC13 Bus Receiver
IC16 Photo Coupler
JK3 MIDI IN
JK2 MIDI OUT
JK1 MIDI THRU
IC5 1M bit EP ROM
IC6 1M bit EP ROM
IC7, IC105 256K bit Partial S RAM
IC8 256K bit S RAM
IC9 4M bit Data ROM
RAM Back-up
D10~14, C18,32
IC19 Decoder
IC4 Microcomputer (Sub CPU)
IC20 Decoder
IC3 Gate Array
IC11 Bus Receiver
IC10 Bus Transceiver
IC12 Bus Receiver
IC14 1M bit EP ROM
IC15 256K bit Partial S RAM
IC48 Latch
IC49 Latch
IC99 Latch
IC22 Tone Generator LSI Upper Tab/Poly
IC26 Tone Generator LSI Lower Tab/Poly
IC30 Tone Generator LSI Special
IC34 Tone Generator LSI Solo/Accomp
IC38 Tone Generator LSI Bass/Drums
D/A Converter
Lever Shifter
Analog Buffer Memory
Wave ROM
IC90-1
IC90-2
IC91-2
IC91-1
IC92-2
IC92-1
IC93-1
IC94-2
IC94-1
Special
Solo
MACC
RACC
Bass
Drum Percussion R.ch
Drum Percussion L.ch
CPSL
CPL
ESW
Encoder Switch
LCD
MUSICAL DIRECTOR (LCD Display)
Address Bus
Data Bus
DB0~DB7
RVAL, RVST, SEL0, EFC1


9
10
11
12
13
14
15
16
17
18
19
DRV
IC5
Digital Signal Processor (DSP)
IC3
Gate Array (DSP Interface)
IC2
Partial S RAM (256K bit)
IC4
D/A Converter
A/D Converter
IC1
Reset IC
IC8-2
IC8-1
IC7-1
IC9-2 Low-Pass Filter
IC9-1 Low-Pass Filter
IC7-2 Low-Pass Filter
IC10-1 Noise Limiter Control Circuit
IC11 Dynamic Noise Reduction
Q1
Q2
PWML
PWMR
ASO
SDI
WSI
WSO
AWCK
ASI
SDO
ASCK
SCKO
A1L
A2L
A3L
D0~D15
A0~A14
D0~7
DALE
MWR
DB0~7
CN2
CN1
DRVO
DRVL
DRVR
PSM
CN4
RVAL, RVST, SELO, EFCI
SNS
+5V
+15V
-15V
E
+12V
IC99 Latch
Latch
IC25, IC24-2, 23
IC50~57
Analog Buffer Memory
Lever Shifter
Converter
IC90-1
IC90-2
IC58~65
IC29, IC28-2
Z5
42, 43
Wave ROM
IC33, Z7
IC32-2
IC66~73
IC91-2
IC91-1
IC45, 102
IC74~81
IC37, IC36-2
Z8
IC92-2
IC92-1
IC41, Z6, IC40-2
IC82~89
IC93-1
IC94-2
IC94-1
C47
Special
Solo
MACC
RACC
Bass
Drum Percussion R ch
Drum Percussion L ch
Lower Tab/Poly
Upper Tab/Poly
Data Bus
CN11
CN15
CN13
CN3
EJII
CN10
CN2
CN4
A0
PWM0, 1
DB0~DB7
AUX C
IC3 PWM Generator
DB0~7
EFCI
C/D
SELO
Q28
PWMI
PWM4
MDB0~7
WR
IC1, 2, 4, 5
EFFECT SELECTOR
Reverb
Direct 1
Direct 2
Celeste
Tremolo
ISEO
IC48-2 Low-Pass Filter
IC48-1 Low-Pass Filter
IC49-2 Low-Pass Filter
IC49-1 Low-Pass Filter
IC53-2 Low-Pass Filter
IC53-1 Low-Pass Filter
UTAB
LTAB
SPC
SOLO
MACC
RACC
IC39-1 Buffer
IC8-1 Low-Pass Filter
IC6-1 Low-Pass Filter
IC6-2 Low-Pass Filter
IC7-1 Low-Pass Filter
IC9 Compressor
CELESTE MODULATION CIRCUIT
IC10 Level Sensor
IC11, 13, 17 Clock Generator
Q20~26 3 Phase Oscillator
IC12, 14, 18
BBD
IC15-2 Mixing & Low-Pass Filter
IC15-1 Mixing & Low-Pass Filter
IC16, 20 Expander
TREMOLO MODULATION CIRCUIT
IC23 Level Sensor
IC7-2 Low-Pass Filter
IC22 Compressor
IC31 BBD
IC32 BBD
IC33-1 Low-Pass Filter
IC33-2 Low-Pass Filter
IC36 VCA
IC37 VCA
IC24-2, IC47-2 Mixing
IC36, 37, IC24-1, 47-1 Expander
IC46-2 Phase Inverter
IC25-1, IC26 Saw-Tooth Wave Modulation
IC25-2, IC27 Saw-Tooth Wave Modulation
PWM1
PWM0
IC28-2 Buffer
IC28-1 Buffer
IC29 Clock Generator
IC30 Clock Generator
IC39-1 Low-Pass Filter
IC38-1 Low-Pass Filter
IC38-2 Low-Pass Filter
BASS
DPR
DPL
IC46-1 AUX Detector
AUXC
AUXR
AUXL
IC40 Mixing
R ch
L ch
R ch, L ch
Bass
DPR
DPL
CN9
CN1
MAIN
IC41 Dynamic Noise Reduction
IC42, 45, 46, Q29, 30 Volume Control Circuit
ISEO
PWMI
IC43-1 Low-Pass Filter
IC43-2 Low-Pass Filter
IC44-1 Mixing
IC44-2 Mixing
RCHO
LCHO
PMUT
MIC
LOR
LOL
HPR
HPL
PHS
Q9~Q11 Muting Control Circuit
SNS
Q10, 12, 14, 15
Q11, 13, 16, 17
IC45-2
IC45-1
JK1
JK2
JK3
JK4
R/R+L
L
LINE OUT
AUX IN
CN5
CN7
S1 Power SW
D1 Power Indicator
PC1 AC IN
FDCN
+5V
PSM
IC1~3, Q1~3, D1~4 Reset Circuit & Regulator
+15
+18
-18
+12
CN7
CN8
CN2
CN4
CN1
ACP
Primary Circuit
CN3
CN2
CN1
T2 Sub Transformer
T1 Power Transformer
PSS
D9, D10 Rectifier
IC1 +12V Regulator
RL1
D1, 2, 5, 6 Rectifier
Q1~9, D7, 8 ±18V Regulator
+12
+18
-18
CN5
CN4
CN
CN6
CN3
CN1
MOR
MOL
SP6
SP5
6×13cm, 16Ω
PA
D1, 2, 4, 5, 8, 9, 11, 12 Rectifier
-VCC
+VCC
CN4
CN3
CN2
CN8
CN1
CN7
IC1-2
IC1-1
TWR
TWL
SP4
SP3
6.5cm, 8Ω
SPR
SPL
SP2
SP1
20cm, 8Ω
JACK
JK4 Headphones Jack
PMUT
HPR
HPL
PHS
LOR
LOL
JK1
JK2
R ch
L ch
LINE OUT
JK3
MIC
IC1-1
IC1-2
MIC VOLUME
HEADPHONES

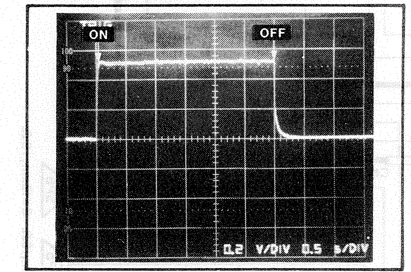
MAIN

MAIN CIRCUIT BOARD

■ Measuring Conditions

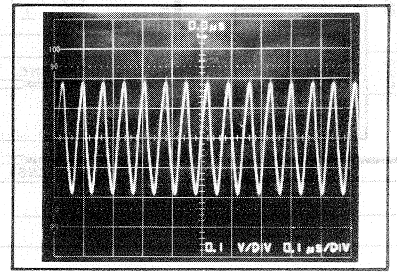
1. Set to the initial mode. (Refer to page I-3)
2. Set the all parts INITIAL TOUCH SENSE function (EFFECT MODE: Page 4) to "0". (Upper=0, Lower=0, Bass=0)
3. Change the unit setting as indicate below the pictures to confirm the waveforms.

❶ RESET

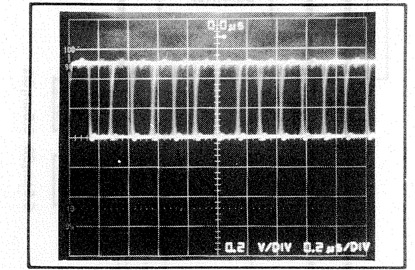

ON
OFF
0.2 V/DIV 0.5 s/DIV

• Power SW..........................ON → OFF

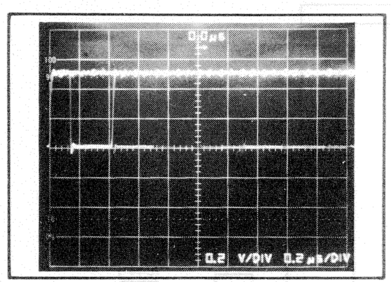
❷ X1, 14MHz


0.1 V/DIV 0.1 µs/DIV

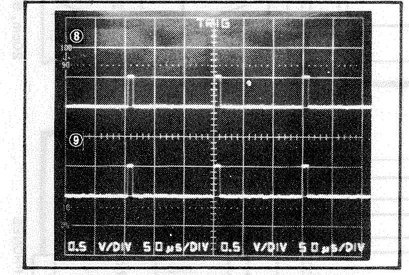
❸ RD


0.2 V/DIV 0.2 µs/DIV

❹ WR

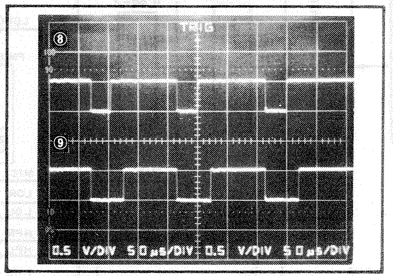

0.2 V/DIV 0.2 µs/DIV

❽ PWM1, ❾ PWM0


TRIG
⑧
⑨
0.5 V/DIV 5.0 µs/DIV 0.5 V/DIV 5.0 µs/DIV

• Tremolo Slow/Fast............Slow

❽ PWM1, ❾ PWM0


⑧
⑨
0.5 V/DIV 5.0 µs/DIV 0.5 V/DIV 5.0 µs/DIV

• Tremolo Slow/Fast............Fast

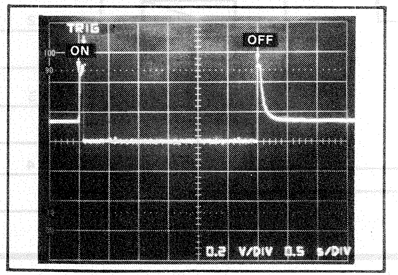
❿ MAIN VOLUME

MAX....................................5V

⟆ ⟆

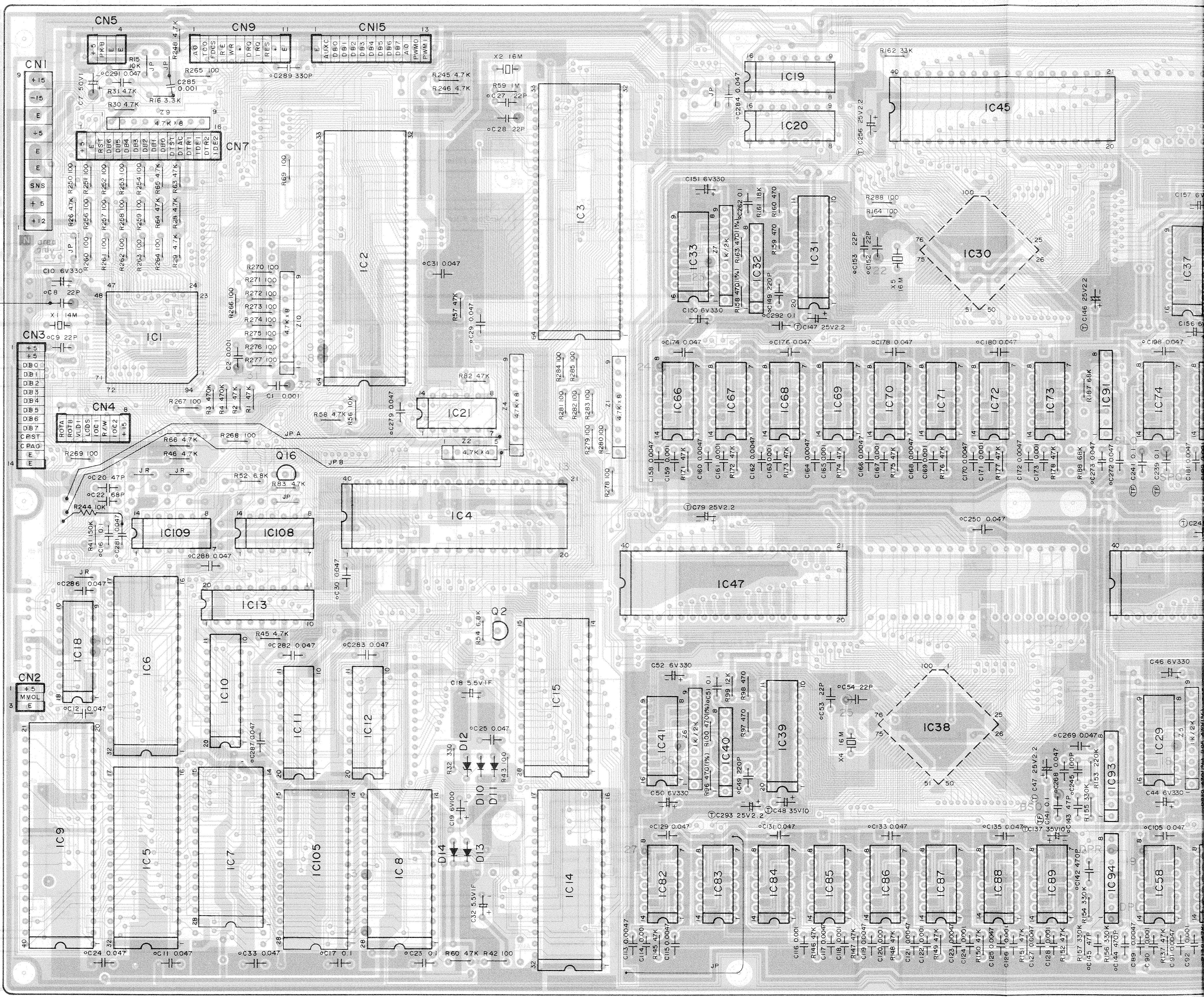
MIN....................................0V

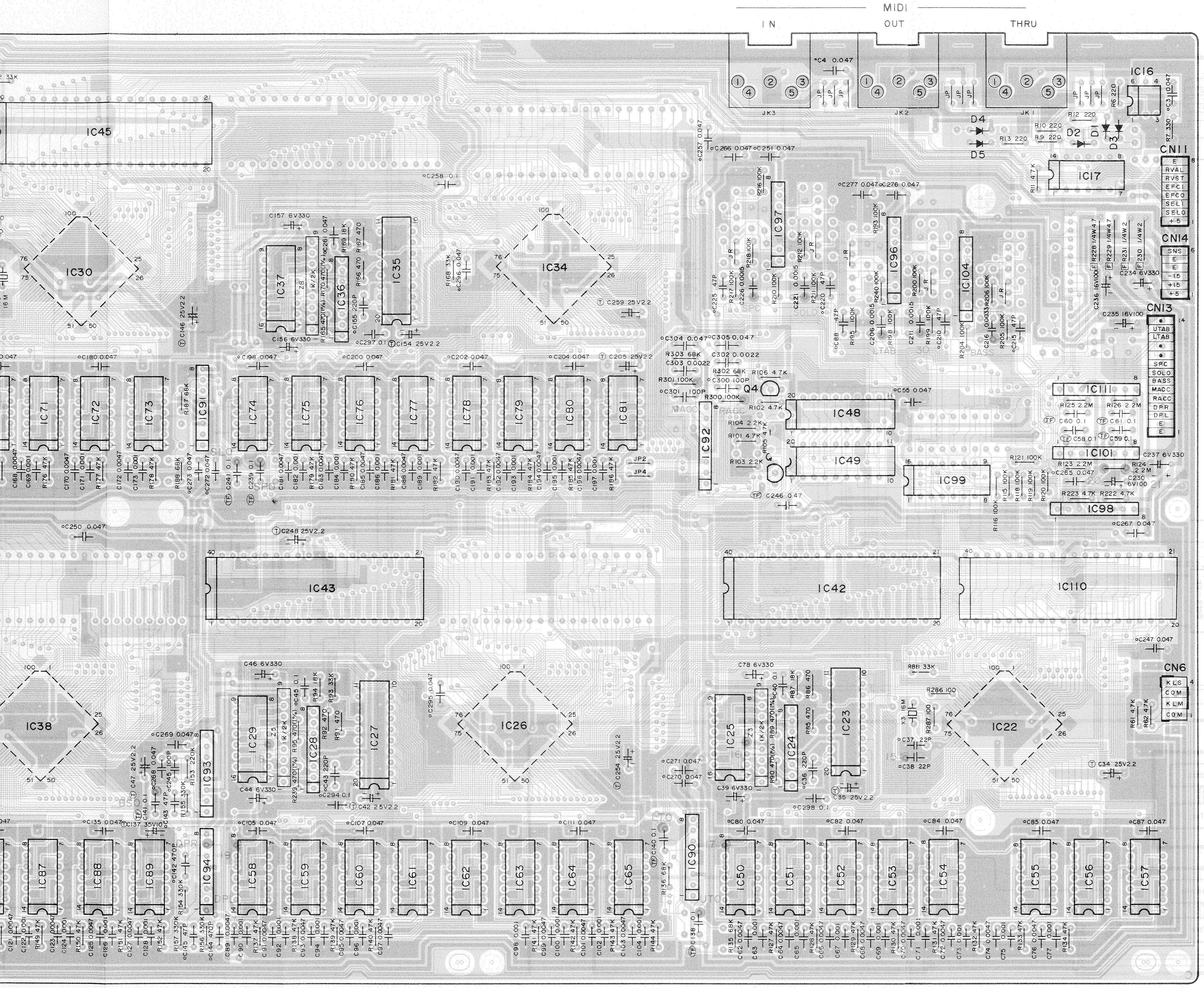
⓭ RESO


TRIG
ON
OFF
0.2 V/DIV 0.5 s/DIV

• Power SW..........................ON → OFF

Circuit view on top of P.C.B.


CN1
CN2
CN3
CN4
CN5
CN7
CN9
CN15
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC12
IC13
IC14
IC15
IC18
IC19
IC20
IC21
IC29
IC30
IC31
IC32
IC33
IC37
IC38
IC39
IC40
IC41
IC45
IC47
IC58
IC66
IC67
IC68
IC69
IC70
IC71
IC72
IC73
IC74
IC82
IC83
IC84
IC85
IC86
IC87
IC88
IC89
IC91
IC93
IC94
IC105
IC108
IC109
Q2
Q16
D10
D11
D12
D13
D14
X1 14M
X2 16M
X4 16M
X5 16M


MIDI
IN
OUT
THRU
JK3
JK2
JK1
IC16
IC17
IC45
IC30
IC37
IC36
IC35
IC34
IC97
IC96
IC104
CN11
CN14
CN13
IC71
IC72
IC73
IC91
IC74
IC75
IC76
IC77
IC78
IC79
IC80
IC81
IC92
Q4
IC48
IC49
IC99
IC111
IC101
IC98
IC43
IC42
IC110
IC38
IC29
IC28
IC27
IC26
IC93
IC25
IC24
IC23
IC22
CN6
IC87
IC88
IC89
IC94
IC58
IC59
IC60
IC61
IC62
IC63
IC64
IC65
IC90
IC50
IC51
IC52
IC53
IC54
IC55
IC56
IC57
D1
D2
D3
D4
D5

- [EZ] [M] [MC] [XM] [XL] areas

SXPG200181

- [N] area

SXPG200141

- Other areas

SXPG2001111

NOTES:

- IC'S

IC1:	SVIGD70320GJ
IC2:	SVIGMB621407
IC3:	SVIGD656C329
IC4:	SVIGLH701088
IC5:	QSIGAGN3BX0
IC6:	QSIGAGN3AX0
IC7, 15, 105:	SVIGHM65256
IC8:	SVIGM5256BLL
IC9:	QSIGU3C04742
IC10:	M74HC245P
IC11〜13:	SVIGM74HC244
IC14:	QSIGAGN3CX0
IC16:	SVIGTLP513
IC17:	SVIGM74LS07
IC18:	SVIGMSM6253
IC19:	SVIGM74H138
IC20:	M74HC139P
IC21:	SVIGM74H02
IC22, 26, 30, 34, 38:	MN6635
IC23, 27, 31, 35, 39:	SVIGBA9221
IC24, 28, 32, 36, 40:	SVIGM5238L
IC25, 29, 33, 37, 41:	SVIGTC4051BP
IC42:	QSIGU3C04740
IC43:	QSIGU3C04738
IC45:	QSIGU3C04732
IC47:	QSIGU3C04730
IC48, 49:	SVIGM74HC374
IC50〜89:	SVIGM74H4066
IC90〜94, 96〜98, 101, 104, 111:	SVIGM5218L
IC99:	M74HC174P
IC108:	SVIGM74H00
IC109:	SVIGM74H32
IC110:	QSIGU3C04741

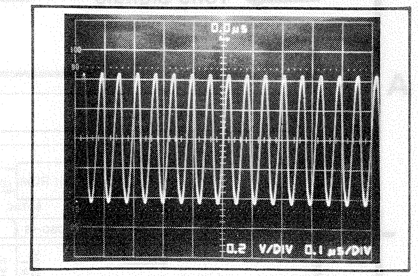
- TRANSISTORS

Q2〜4, 16:	2SC1047C

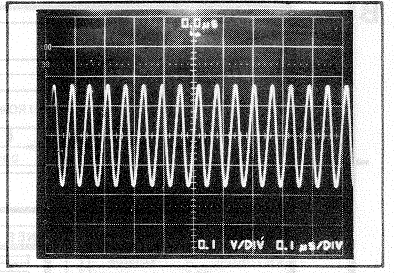
- DIODES

D1〜5, 10, 11, 13, 14:	MA165TA5
D12:	MA4056

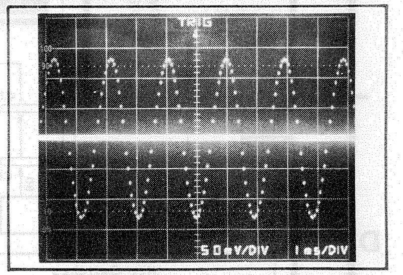
⑭ X2, 16MHz



⑮ X3, 16MHz

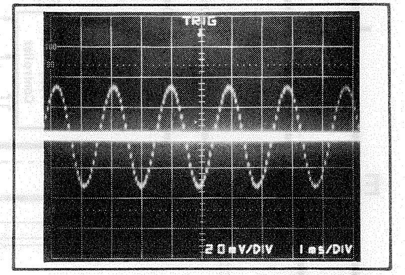


⑯ Upper Tab & Organ



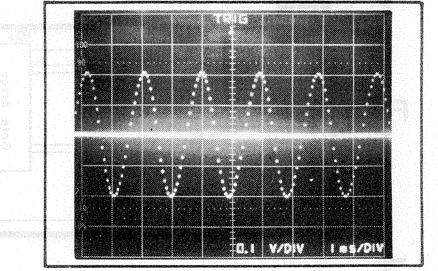
- Upper Tab & Organ............Flute 8′
- Upper Keyboard..................C4 Key

⑰ Upper Tab & Organ



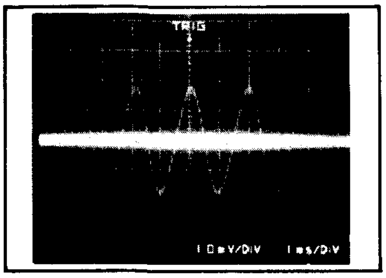
- Upper Tab & Organ............Flute 8′
- Upper Keyboard..................C4 Key

⑱ Lower Tab & Organ



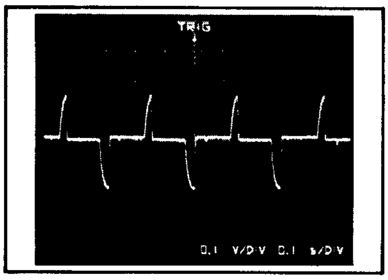
- Lower Tab & Organ............Flute 8′
- Lower Keyboard ....C4 Key

⑲ Lower Tab & Organ



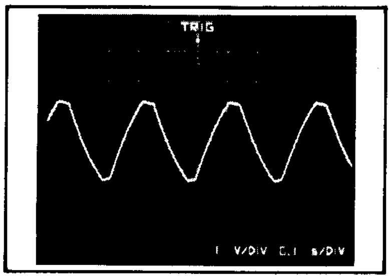
- Lower Tab & Organ............Flute 8′
- Lower Keyboard ....C4 Key

⑳



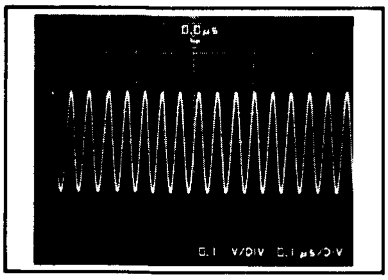
- Lower Poly ....Mallet (Vibraphone)

㉑

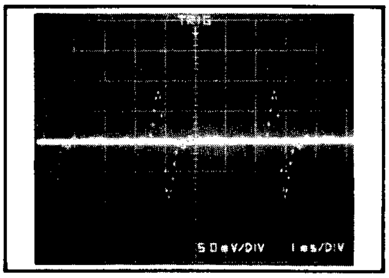


- Lower Poly ....Mallet (Vibraphone)

㉒ X5, 16MHz

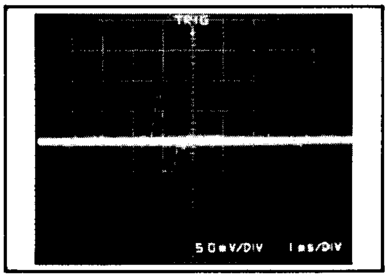


㉓ Special



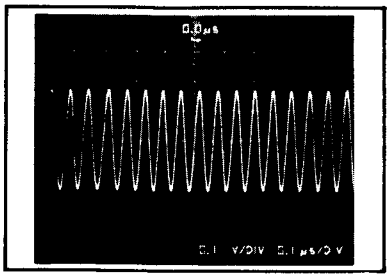
- Upper Special ....Trumpet
- Upper Keyboard..................C4 Key

㉔ Special

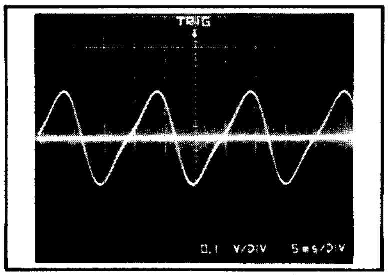


- Upper Special ....Trumpet
- Upper Keyboard..................C4 Key

㉕ X4, 16MHz

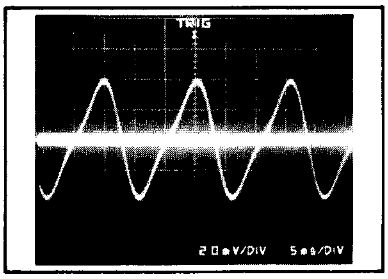


㉖ Bass



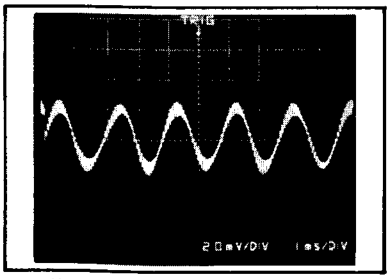
- Bass ....Organ
- Pedal Keyboard ....C2 Key

㉗ Bass



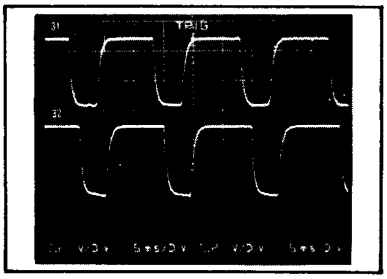
- Bass ....Organ
- Pedal Keyboard ....C2 Key

㉚ UTAB



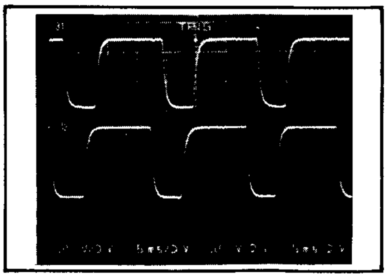
- Upper Tab & Organ ....Flute 8′
- Upper Keyboard..................C4 Key

㉛ ROTA, ㉜ ROTB



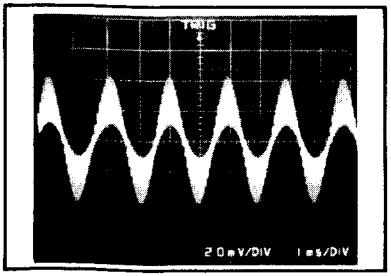
- Tempo/Program..................Clockwise

㉛ ROTA, ㉜ ROTB



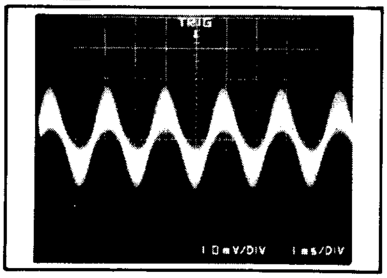
- Tempo/Program..................Counter-clockwise

UTO



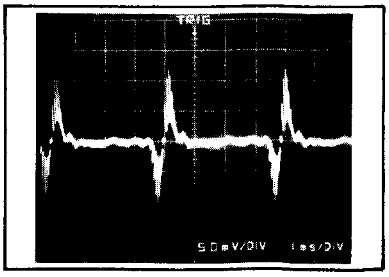
- Upper Tab & Organ ....Flute 8′
- Upper Keyboard..................C4 Key

LTO



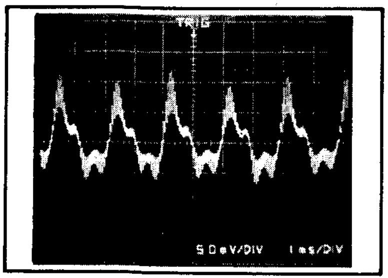
- Lower Tab & Organ............Flute 8′
- Lower Keyboard ....C4 Key

SPO



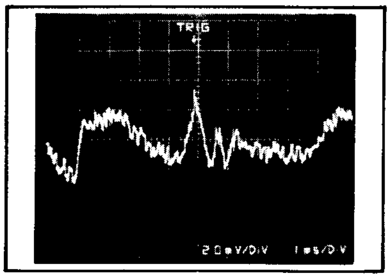
- Upper Special ....Trumpet
- Upper Keyboard..................C4 Key

SLO



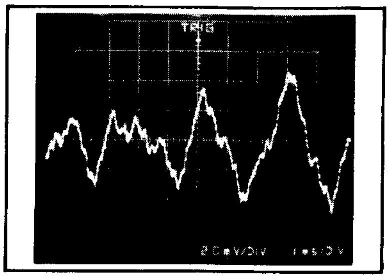
- Upper Solo ....Flute
- Upper Keyboard..................C4 Key

MACC



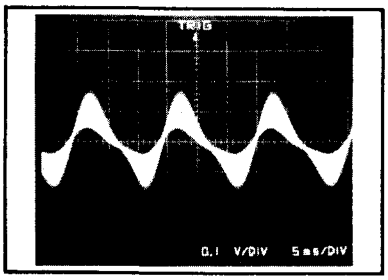
- Rhythm ....Hard Rock
- Arranger...............................Accomp 2 & 3
- LKB: C Key • Start/Stop=Start

RACC



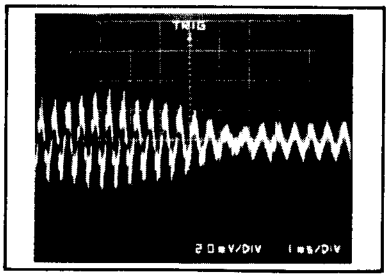
- Rhythm ....Hard Rock
- Arranger...............................Accomp 1
- LKB: C Key • Start/Stop=Start

BSO



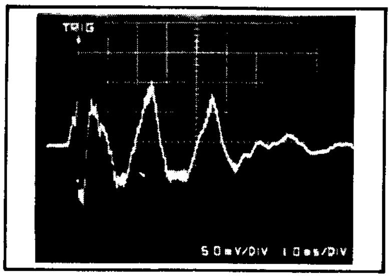
- Bass ....Organ
- Pedal Keyboard ....C2 Key

DPR



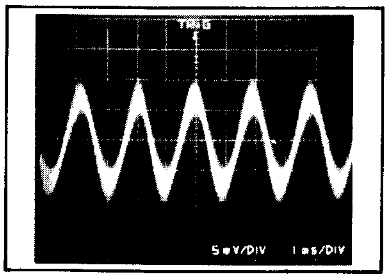
- Keyboard Perc. ....ON
- Lower Keyboard ....Whistle 1

DPL



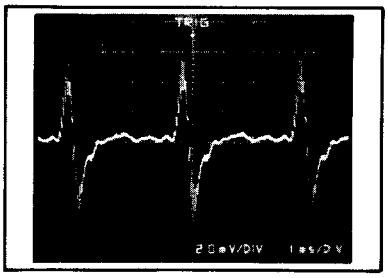
- Keyboard Perc. ....ON
- Lower Keyboard ....Bass Drum 1

LTAB



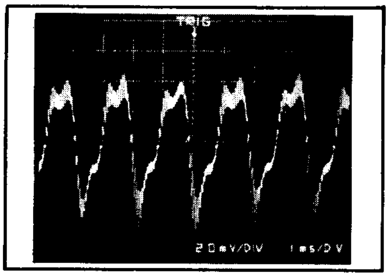
- Lower Tab & Organ............Flute 8′
- Lower Keyboard ....C4 Key

SPC



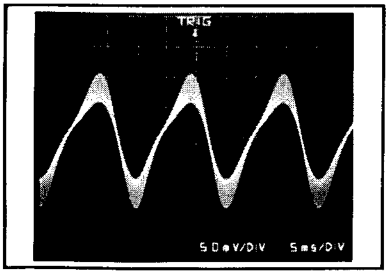
- Upper Special ....Trumpet
- Upper Keyboard..................C4 Key

SOLO



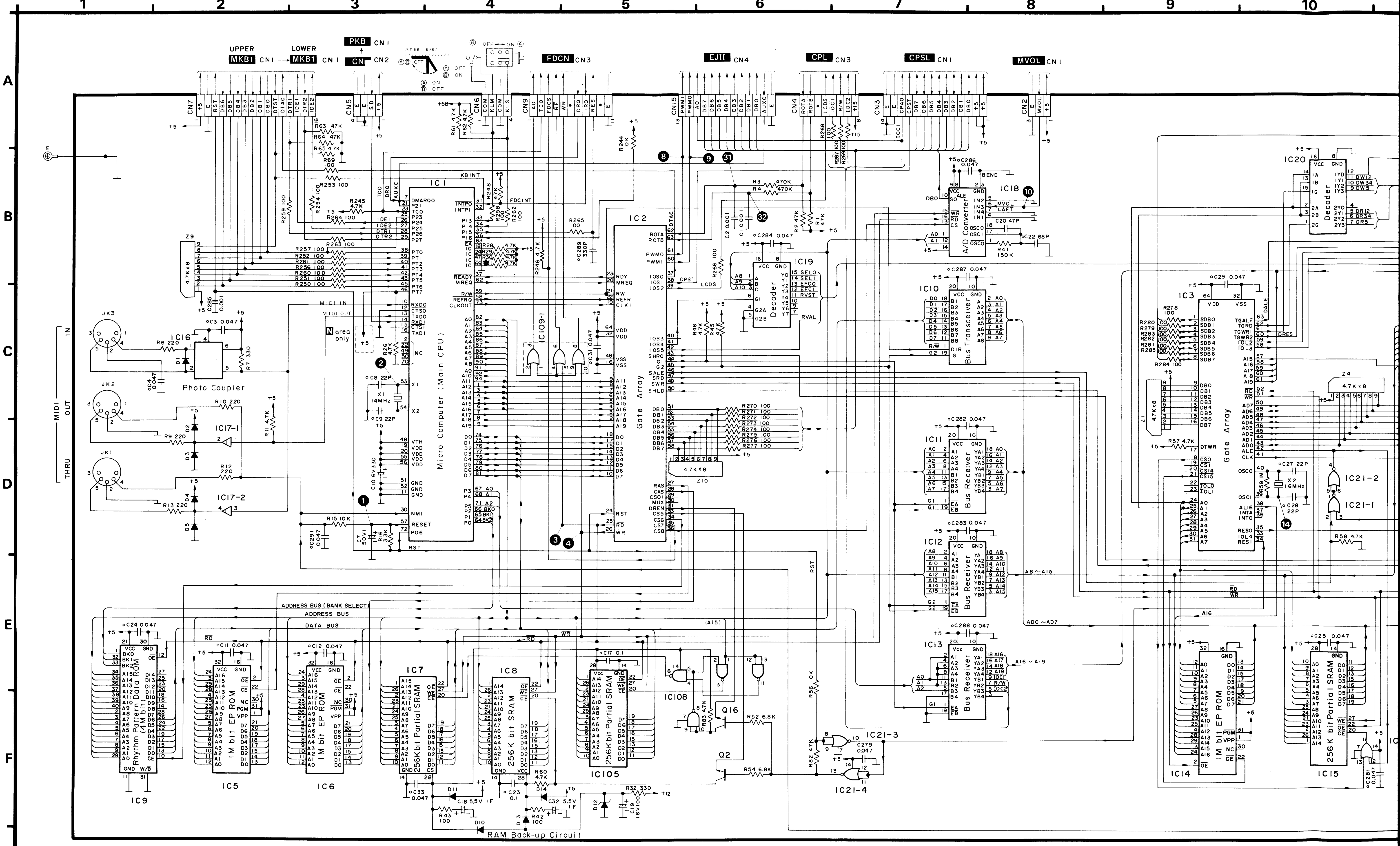
- Upper Solo ....Flute
- Upper Keyboard..................C4 Key

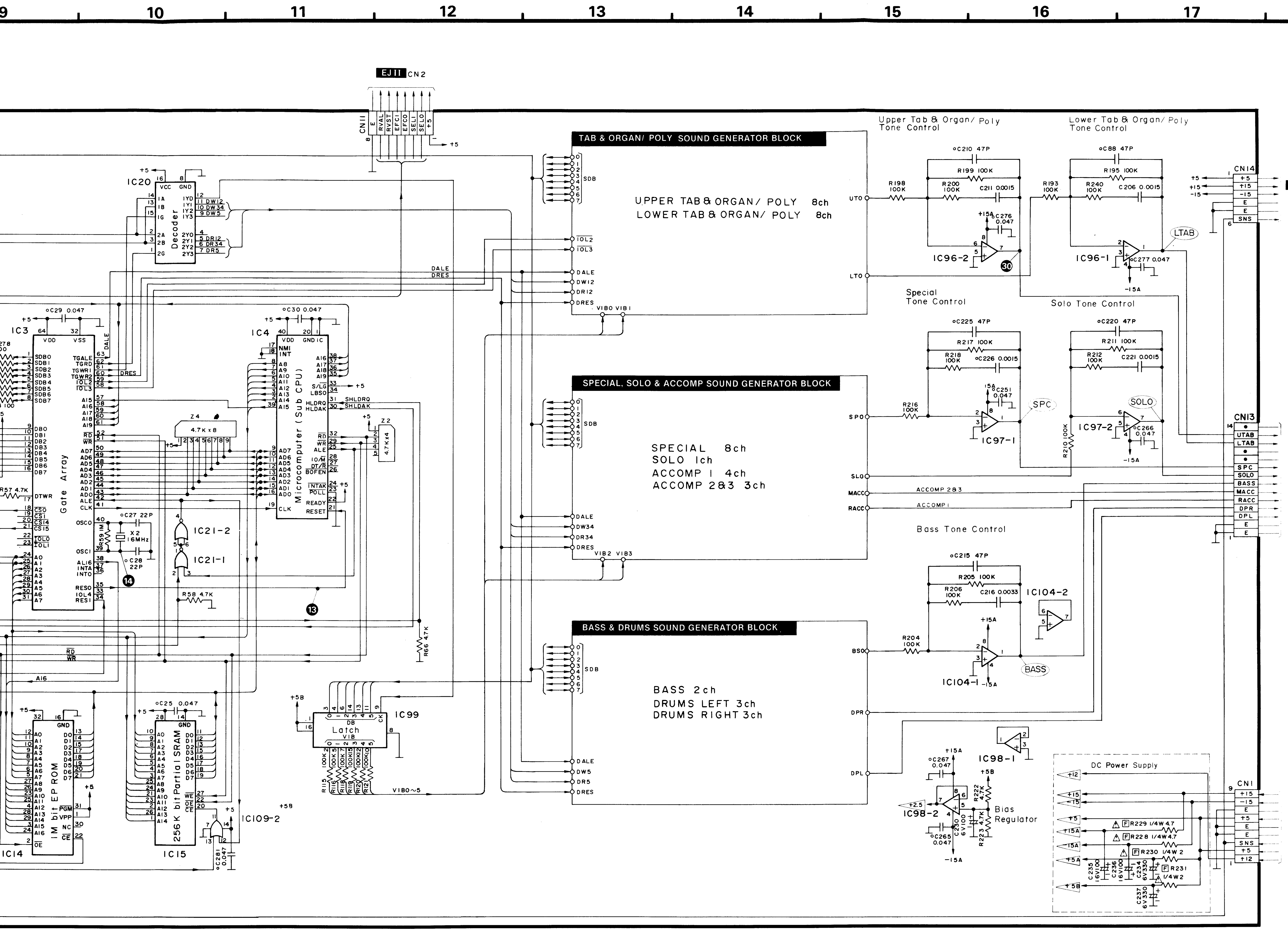
BASS



- Bass ....Organ
- Pedal Key ....C2 Key

MAIN CIRCUIT DIAGRAM


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
UPPER
LOWER
MKB1 CN1
MKB1 CN1
PKB CN1
CN CN2
Knee lever
FDCN CN3
EJII CN4
CPL CN3
CPSL CN1
MVOL CN1
CN7
CN5
CN6
CN9
CN15
CN4
CN3
CN2
IC1
Micro Computer (Main CPU)
IC2
Gate Array
IC3
Gate Array
IC5
1M bit EP ROM
IC6
1M bit EP ROM
IC7
256Kbit Partial SRAM
IC8
256K bit SRAM
IC9
Rhythm Pattern Data ROM (4M bit)
IC10
Bus Transceiver
IC11
Bus Receiver
IC12
Bus Receiver
IC13
Bus Receiver
IC14
1M bit EP ROM
IC15
256K bit Partial SRAM
IC16
Photo Coupler
IC17-1
IC17-2
IC18
A/D Converter
IC19
Decoder
IC20
Decoder
IC21-1
IC21-2
IC21-3
IC21-4
IC105
256Kbit Partial SRAM
IC108
IC109-1
Q2
Q16
JK1
JK2
JK3
MIDI
IN
OUT
THRU
X1 14MHz
X2 16MHz
N area only
ADDRESS BUS (BANK SELECT)
ADDRESS BUS
DATA BUS
RAM Back-up Circuit
A8～A15
AD0～AD7
A16～A19
MIDI IN
MIDI OUT
KBINT
FDCINT
RST

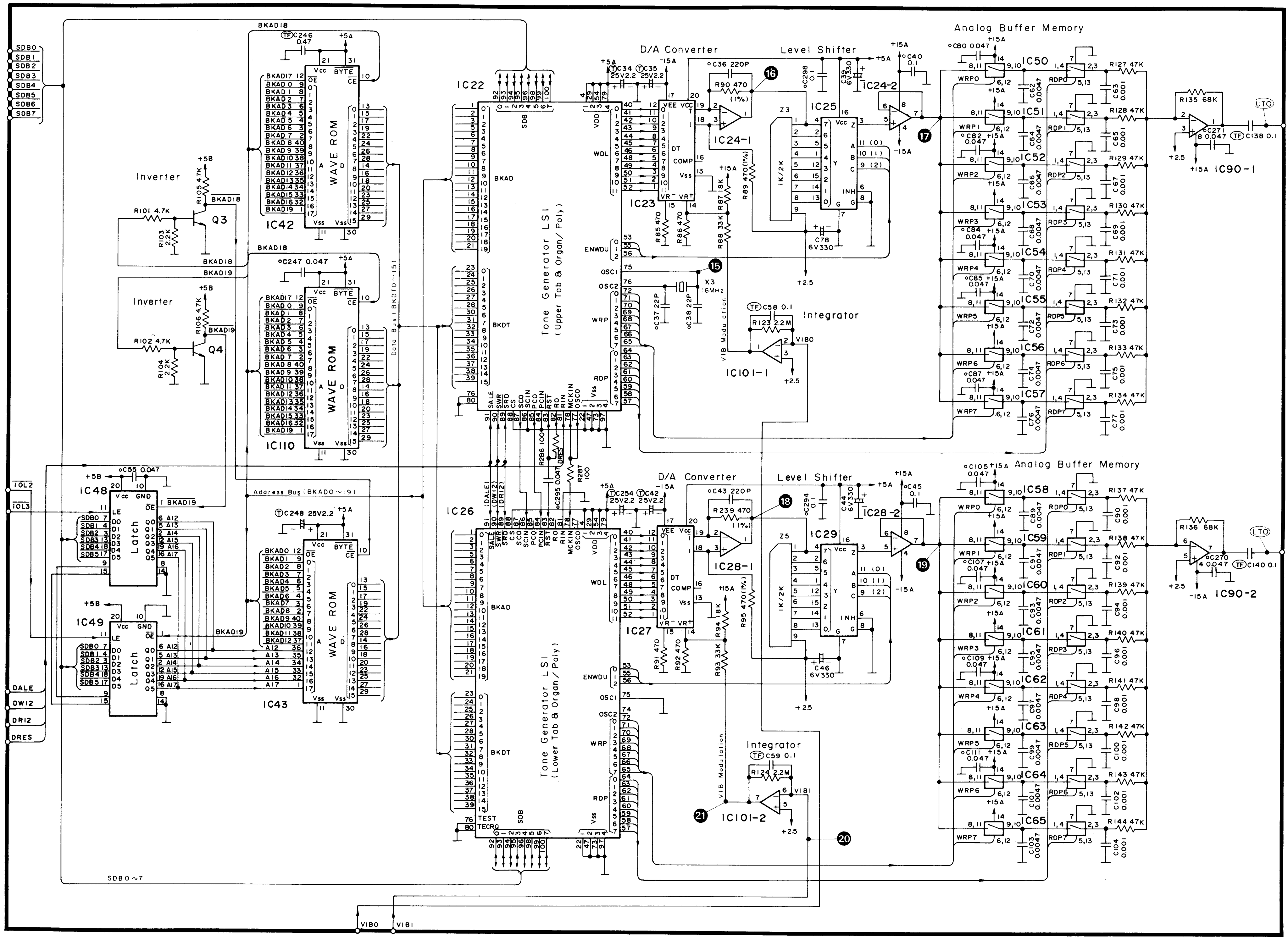

9
10
11
12
13
14
15
16
17
18
19
EJII CN2
CN11
TAB & ORGAN/ POLY SOUND GENERATOR BLOCK
UPPER TAB & ORGAN/ POLY 8ch
LOWER TAB & ORGAN/ POLY 8ch
SDB
IOL2
IOL3
DALE
DW12
DR12
DRES
VIB0 VIB1
UTO
LTO
Upper Tab & Organ/ Poly Tone Control
Lower Tab & Organ/ Poly Tone Control
IC96-2
IC96-1
LTAB
Special Tone Control
Solo Tone Control
SPECIAL, SOLO & ACCOMP SOUND GENERATOR BLOCK
SPECIAL 8ch
SOLO 1ch
ACCOMP 1 4ch
ACCOMP 2&3 3ch
DW34
DR34
VIB2 VIB3
SPO
SLO
MACC
RACC
ACCOMP 2&3
ACCOMP 1
IC97-1
IC97-2
SPC
SOLO
Bass Tone Control
IC104-1
IC104-2
BASS
BASS & DRUMS SOUND GENERATOR BLOCK
BASS 2ch
DRUMS LEFT 3ch
DRUMS RIGHT 3ch
DW5
DR5
BSO
DPR
DPL
IC98-1
IC98-2
Bias Regulator
DC Power Supply
CN14
EJII CN1
CN13
EJII CN2
CN1
PSM CN4
IC20
Decoder
IC3
Gate Array
IC4
Microcomputer (Sub CPU)
Z4 4.7K x 8
Z2 4.7K x 4
IC21-1
IC21-2
X2 16MHz
IC99
Latch
IC14
1M bit EP ROM
IC15
256K bit Partial SRAM
IC109-2
VIB0~5
13
14
30

NOTES:

- IC'S
  - IC1: SVIGD70320GJ
  - IC2: SVIGMB621407
  - IC3: SVIGD656C329
  - IC4: SVIGLH701088
  - IC5: QSIGAGN3BX0
  - IC6: QSIGAGN3AX0
  - IC7, 15, 105: SVIGHM65256
  - IC8: SVIGM5256BLL
  - IC9: QSIGU3C04742
  - IC10: M74HC245P
  - IC11~13: SVIGM74HC244
  - IC14: QSIGAGN3CX0
  - IC16: SVIGTLP513
  - IC17: SVIGM74LS07
  - IC18: SVIGMSM6253
  - IC19: SVIGM74H138
  - IC20: M74HC139P
  - IC21: SVIGM74H02
  - IC22, 26, 30, 34, 38: MN6635
  - IC23, 27, 31, 35, 39: SVIGBA9221
  - IC24, 28, 32, 36, 40: SVIGM5238L
  - IC25, 29, 33, 37, 41: SVIGTC4051BP
  - IC42: QSIGU3C04740
  - IC43: QSIGU3C04738
  - IC45: QSIGU3C04732
  - IC47: QSIGU3C04730
  - IC48, 49: SVIGM74HC374
  - IC50~89: SVIGM74H4066
  - IC90~94, 96~98, 101, 104, 111: SVIGM5218L
  - IC99: M74HC174P
  - IC108: SVIGM74H00
  - IC109: SVIGM74H32
  - IC110: QSIGU3C04741
- TRANSISTORS
  - Q2~4, 16: 2SC1047C
- DIODES
  - D1~5, 10, 11, 13, 14: MA165TA5
  - D12: MA4056

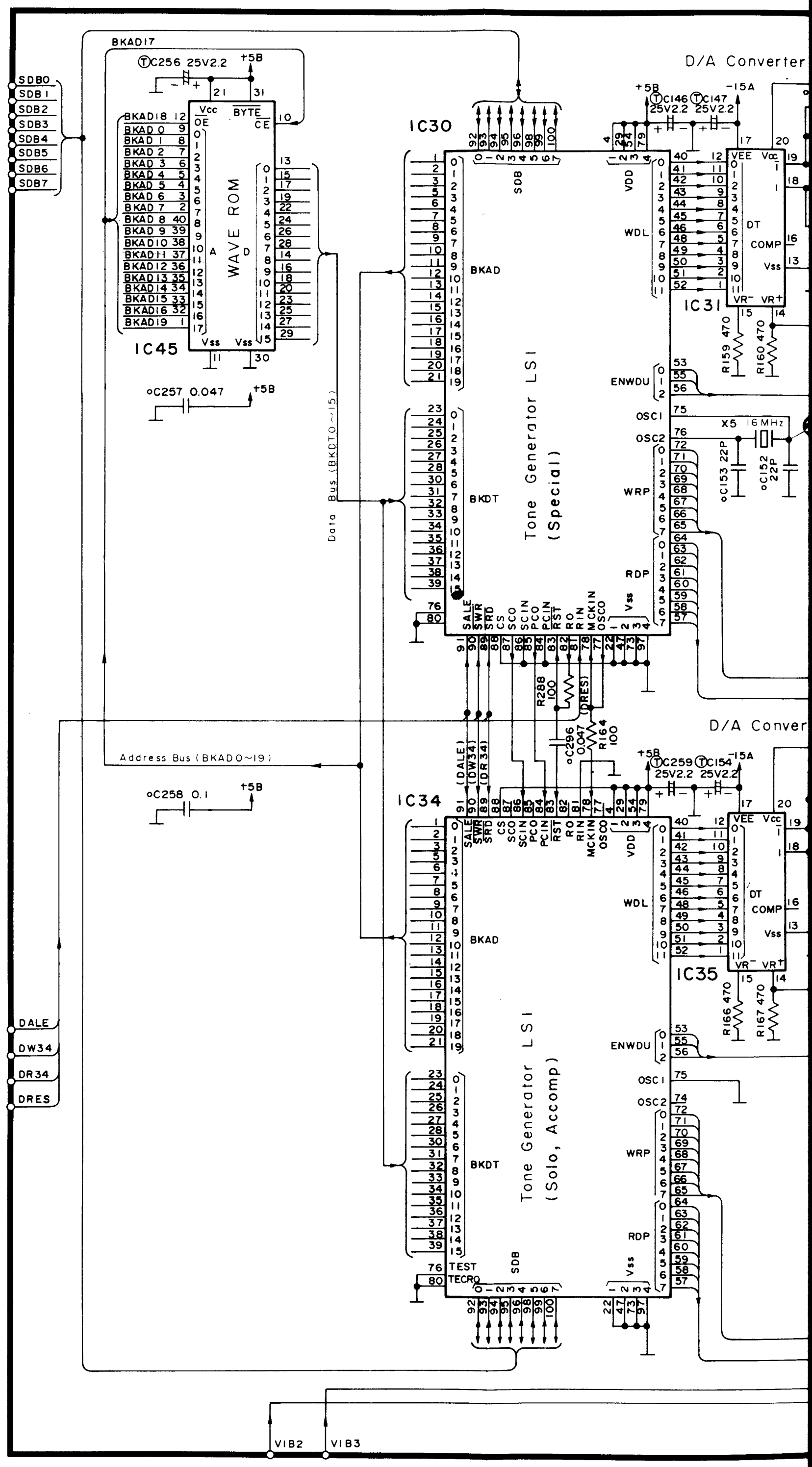
MAIN CIRCUIT SOUND GENERATORS

■ TAB & ORGAN / POLY SOUND GENERATOR BLOCK



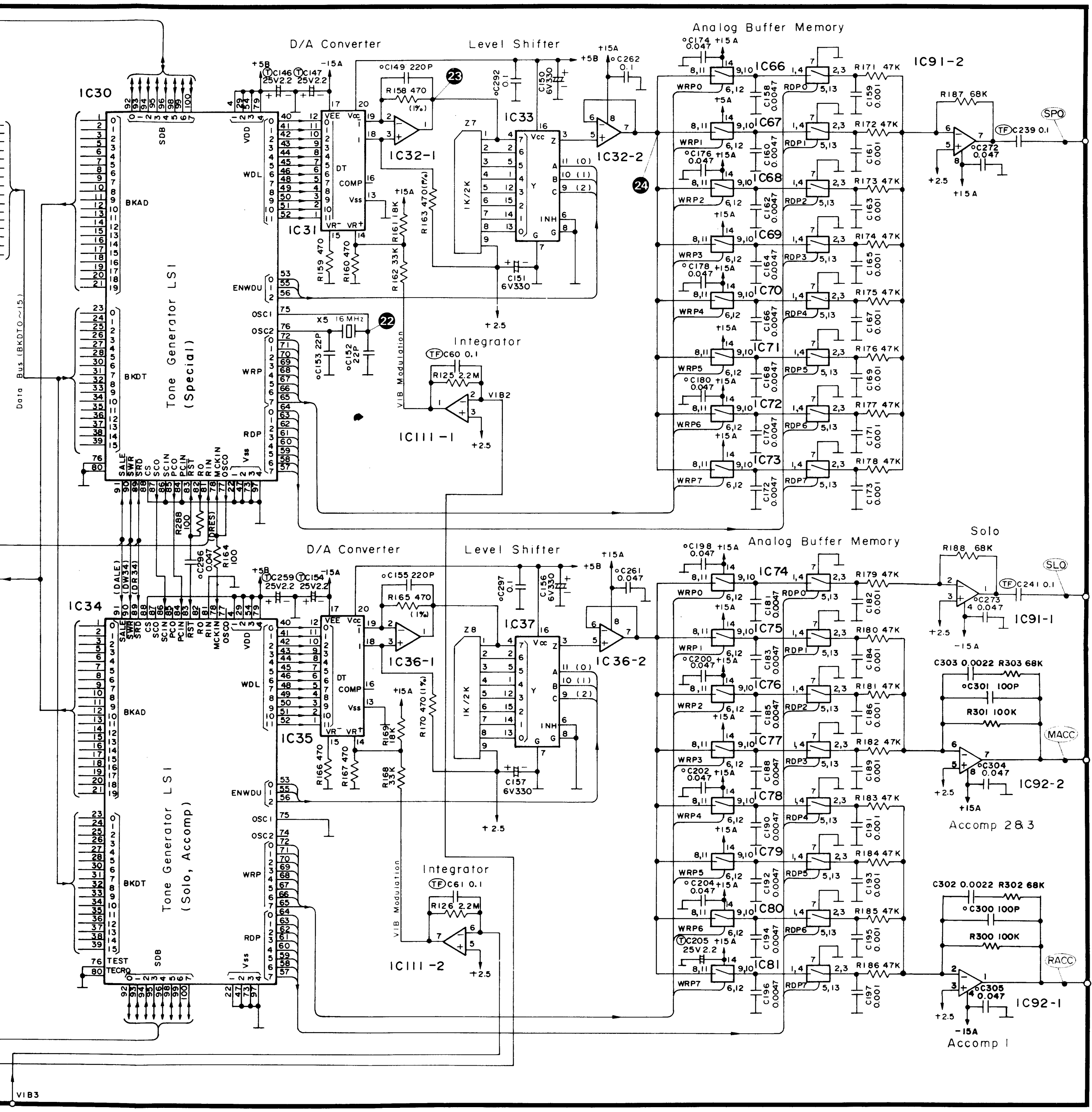
SDB0
SDB1
SDB2
SDB3
SDB4
SDB5
SDB6
SDB7
BKAD18
C246 .047
+5A
IC42
WAVE ROM
Inverter
R101 4.7K
R103 22K
R105 4.7K
Q3
BKAD18
BKAD19
IC110
Inverter
R102 4.7K
R104 22K
R106 4.7K
Q4
IC48
Latch
IC49
IOL2
IOL3
DALE
DW12
DR12
DRES
IC43
C248 25V2.2
Address Bus (BKAD0~19)
Data Bus (BKDT0~15)
SDB0~7
IC22
Tone Generator LSI (Upper Tab & Organ/Poly)
IC26
Tone Generator LSI (Lower Tab & Organ/Poly)
D/A Converter
IC23
IC27
Level Shifter
IC25
IC29
IC24-1
IC24-2
IC28-1
IC28-2
X3 16MHz
Integrator
IC101-1
IC101-2
VIB Modulation
VIB0
VIB1
Analog Buffer Memory
IC50
IC51
IC52
IC53
IC54
IC55
IC56
IC57
IC58
IC59
IC60
IC61
IC62
IC63
IC64
IC65
IC90-1
IC90-2
R135 68K
R136 68K
UTO
LTO
15
16
17
18
19
20
21

■ SPECIAL, SOLO & ACCOMP SOUND GENERATOR

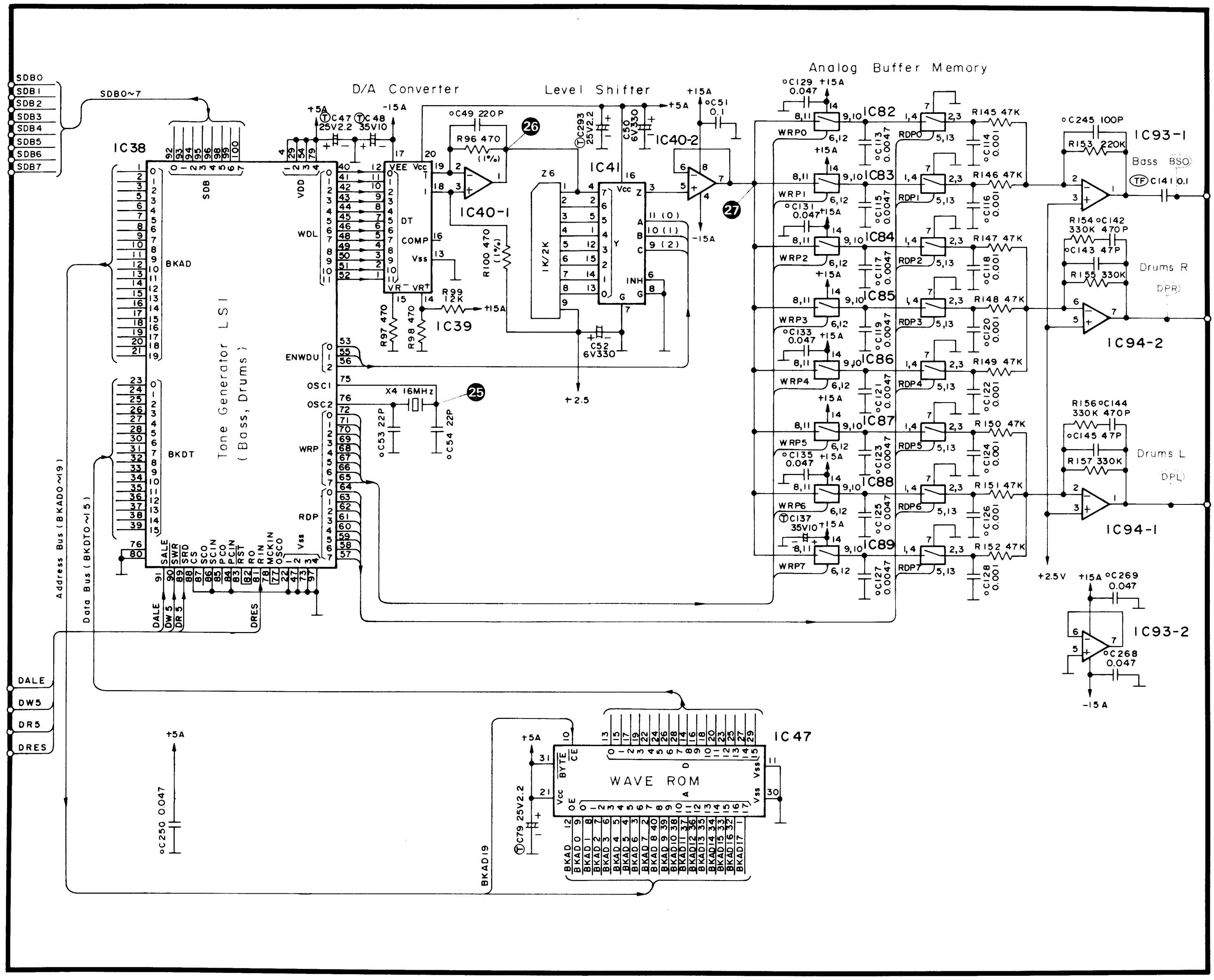


SDB0
SDB1
SDB2
SDB3
SDB4
SDB5
SDB6
SDB7
BKAD17
C256 25V2.2
+5B
IC45
WAVE ROM
C257 0.047
IC30
Tone Generator LSI (Special)
IC31
D/A Converter
X5 16MHz
Address Bus (BKAD0~19)
Data Bus (BKDT0~15)
C258 0.1
IC34
Tone Generator LSI (Solo, Accomp)
IC35
DALE
DW34
DR34
DRES
VIB2
VIB3

& ACCOMP SOUND GENERATOR BLOCK


D/A Converter
Level Shifter
Analog Buffer Memory
IC30
IC31
IC32-1
IC32-2
IC33
IC66
IC67
IC68
IC69
IC70
IC71
IC72
IC73
IC91-2
Tone Generator LSI (Special)
X5 16MHz
Integrator
VIB Modulation
IC111-1
VIB2
SPO
IC34
IC35
IC36-1
IC36-2
IC37
IC74
IC75
IC76
IC77
IC78
IC79
IC80
IC81
Solo
SLO
IC91-1
IC92-2
MACC
Accomp 2&3
IC92-1
RACC
Accomp 1
Tone Generator LSI (Solo, Accomp)
IC111-2
VIB3
Data Bus (BKDT0~15)

BASS & DRUMS SOUND GENERATOR BLOCK


D/A Converter
Level Shifter
Analog Buffer Memory
SDB0~7
IC38
IC39
IC40-1
IC40-2
IC41
IC82
IC83
IC84
IC85
IC86
IC87
IC88
IC89
IC93-1
Bass BSO
BSO
Drums R DPR
DPR
IC94-2
Drums L DPL
DPL
IC94-1
IC93-2
Tone Generator LSI (Bass, Drums)
X4 16MHz
IC47
WAVE ROM
DALE
DWS
DRS
DRES
Address Bus (BKAD0~19)
Data Bus (BKDT0~15)

NOTES:

- IC'S

IC1:	SVIGD70320GJ
IC2:	SVIGMB621407
IC3:	SVIGD656C329
IC4:	SVIGLH701088
IC5:	QSIGAGN3BX0
IC6:	QSIGAGN3AX0
IC7, 15, 105:	SVIGHM65256
IC8:	SVIGM5256BLL
IC9:	QSIGU3C04742
IC10:	M74HC245P
IC11~13:	SVIGM74HC244
IC14:	QSIGAGN3CX0
IC16:	SVIGTLP513
IC17:	SVIGM74LS07
IC18:	SVIGMSM6253
IC19:	SVIGM74H138
IC20:	M74HC139P
IC21:	SVIGM74H02
IC22, 26, 30, 34, 38:	MN6635
IC23, 27, 31, 35, 39:	SVIGBA9221
IC24, 28, 32, 36, 40:	SVIGM5238L
IC25, 29, 33, 37, 41:	SVIGTC4051BP
IC42:	QSIGU3C04740
IC43:	QSIGU3C04738
IC45:	QSIGU3C04732
IC47:	QSIGU3C04730
IC48, 49:	SVIGM74HC374
IC50~89:	SVIGM74H4066
IC90~94, 96~98, 101, 104, 111:	SVIGM5218L
IC99:	M74HC174P
IC108:	SVIGM74H00
IC109:	SVIGM74H32
IC110:	QSIGU3C04741

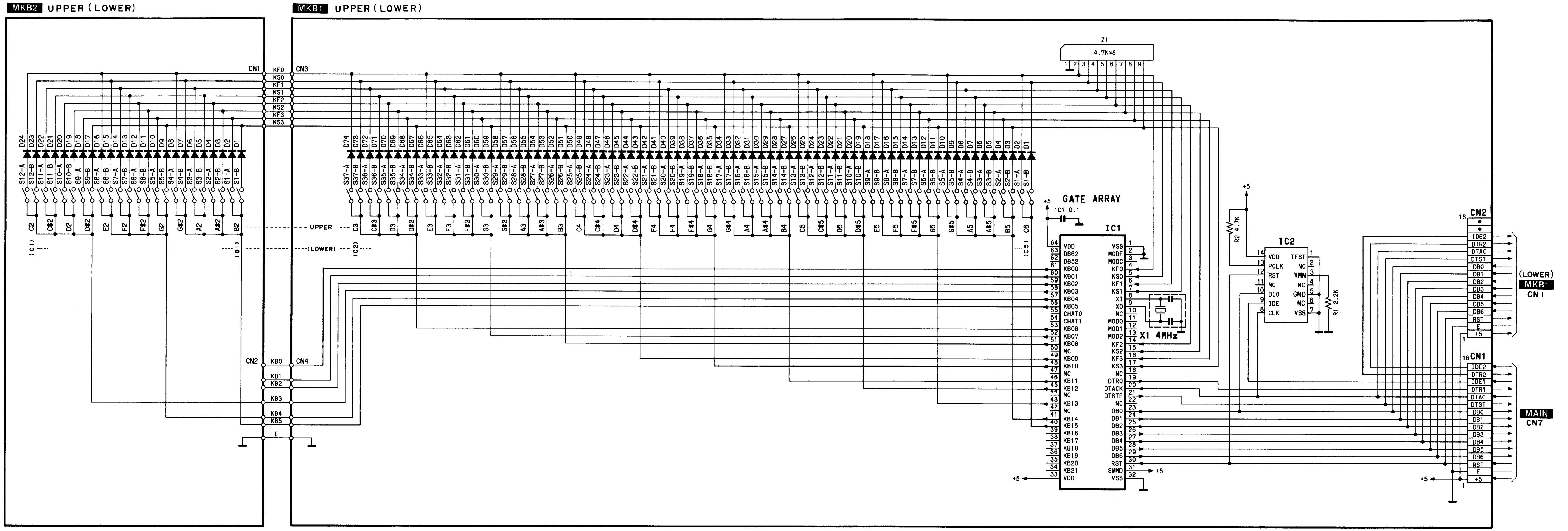
- TRANSISTORS

Q2~4, 16:	2SC1047C

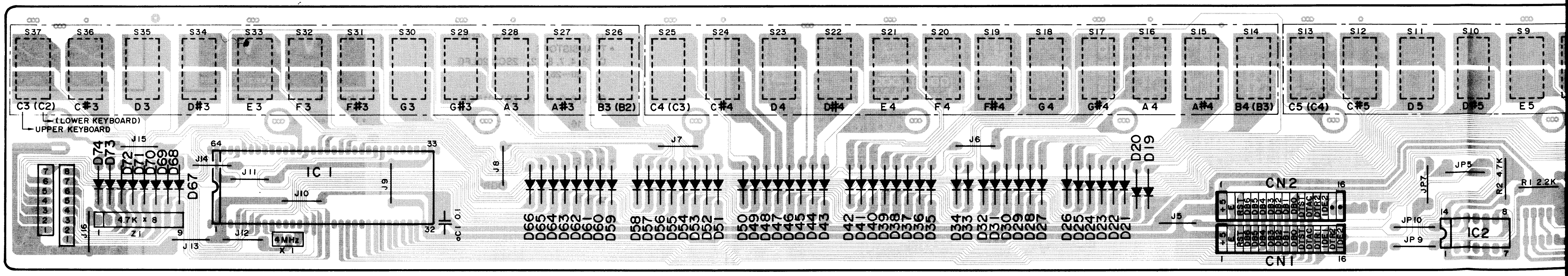
- DIODES

D1~5, 10, 11, 13, 14:	MA165TA5
D12:	MA4056

MKB MANUAL KEYBOARD CIRCUIT DIAGRAM & CIRCUIT BOARD

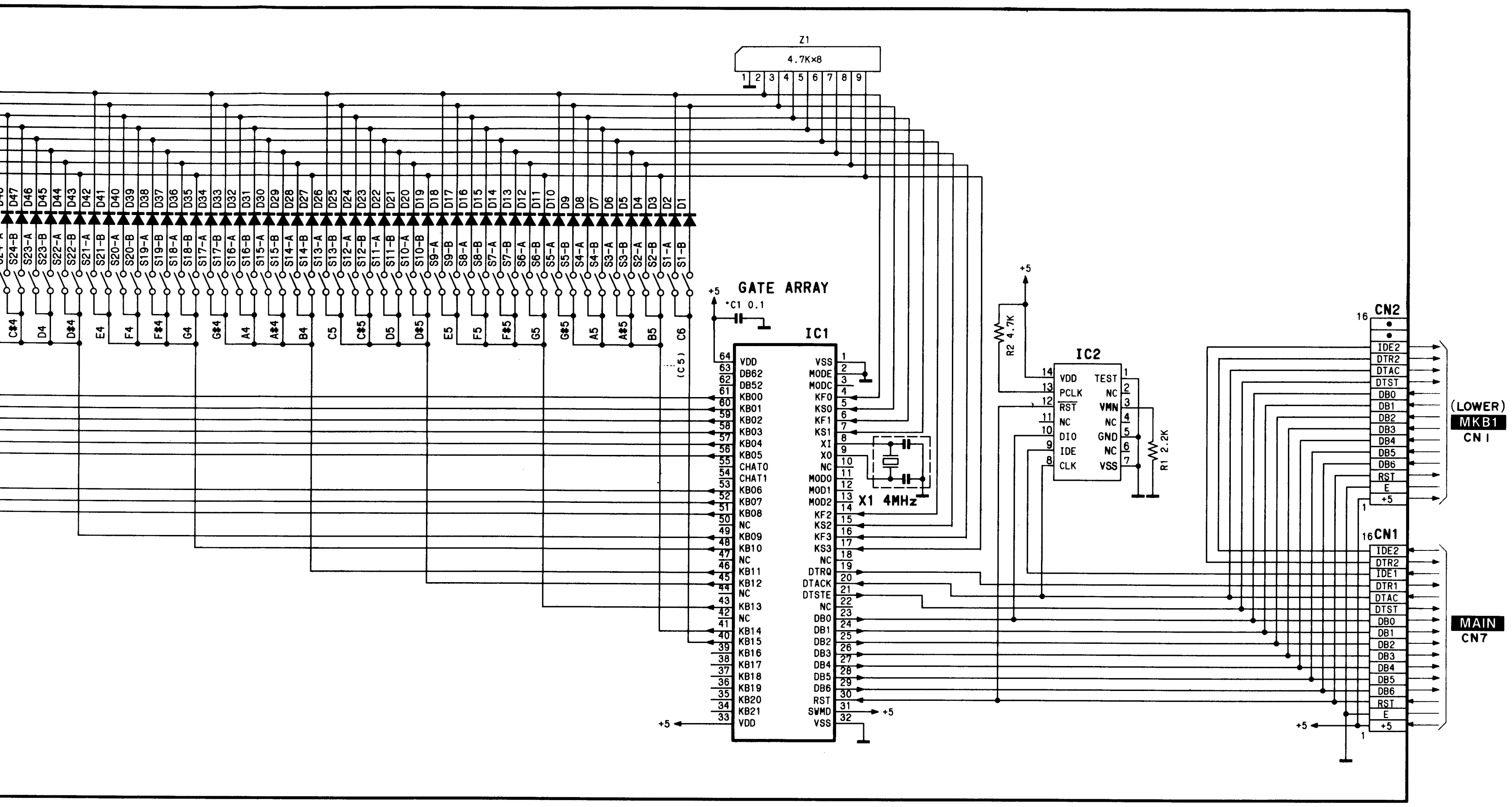

1 2 3 4 5 6 7 8 9 10
A B C D E F
MKB2 UPPER (LOWER)
MKB1 UPPER (LOWER)
CN1
CN2
CN3
CN4
Z1 4.7K×8
GATE ARRAY
IC1
C1 0.1
X1 4MHz
IC2
R2 4.7K
R1 2.2K
CN2
(LOWER) MKB1 CN1
CN1
MAIN CN7
UPPER
(LOWER)

MKB1


C3 (C2)
(LOWER KEYBOARD)
UPPER KEYBOARD
IC 1
4MHz
X 1
4.7K × 8
Z1
C1 0.1
CN2
CN1
IC2
R2 4.7K
R1 2.2K

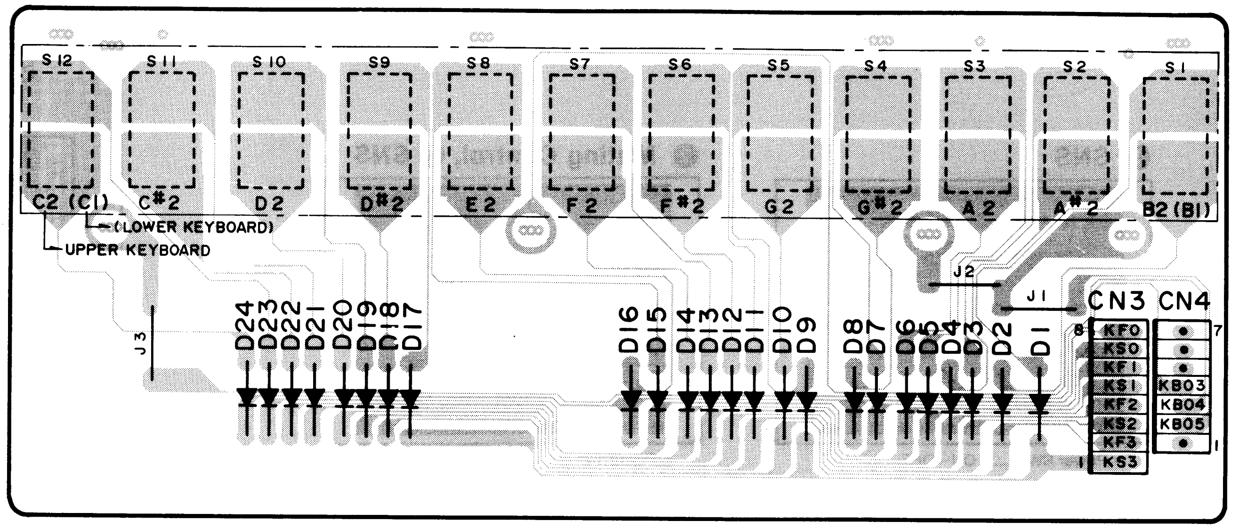
AM & CIRCUIT BOARD

5 6 7 8 9 10 11 12 13 14


Z1
4.7K×8
GATE ARRAY
C1 0.1
IC1
IC2
X1 4MHz
R2 4.7K
R1 2.2K
CN2
CN1
(LOWER)
MKB1
CN1
MAIN
CN7
+5

MKB2

SXPG201011

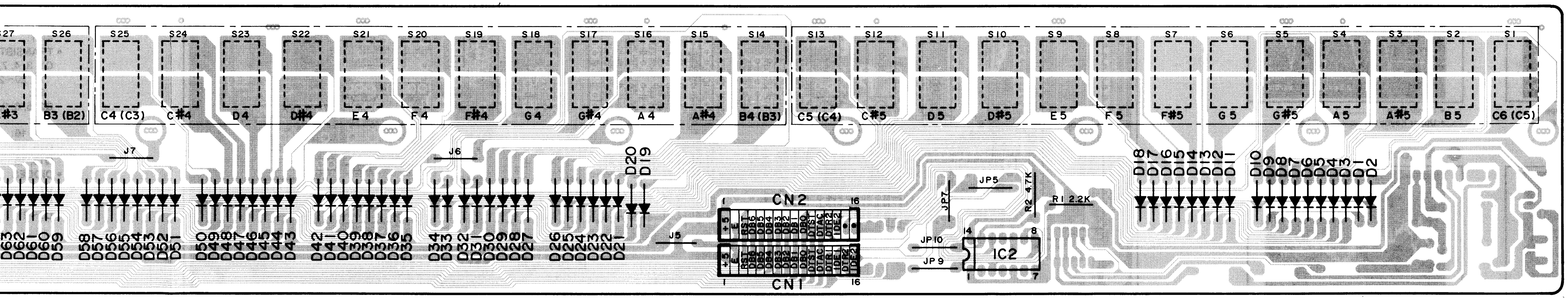

S12
S11
S10
S9
S8
S7
S6
S5
S4
S3
S2
S1
C2 (C1)
C#2
D2
D#2
E2
F2
F#2
G2
G#2
A2
A#2
B2 (B1)
(LOWER KEYBOARD)
UPPER KEYBOARD
J1
J2
J3
CN3
CN4
KF0
KS0
KF1
KS1
KF2
KS2
KF3
KS3
KB03
KB04
KB05

MKB2

NOTES:

- DIODES
  D1～24: MA162A

SXPG200921


S27
S26
S25
S24
S23
S22
S21
S20
S19
S18
S17
S16
S15
S14
S13
S12
S11
S10
S9
S8
S7
S6
S5
S4
S3
S2
S1
#3
B3 (B2)
C4 (C3)
C#4
D4
D#4
E4
F4
F#4
G4
G#4
A4
A#4
B4 (B3)
C5 (C4)
C#5
D5
D#5
E5
F5
F#5
G5
G#5
A5
A#5
B5
C6 (C5)
J5
J6
J7
JP5
JP7
JP9
JP10
R1 2.2K
R2 4.7K
IC2
CN2
CN1

MKB1

NOTES:

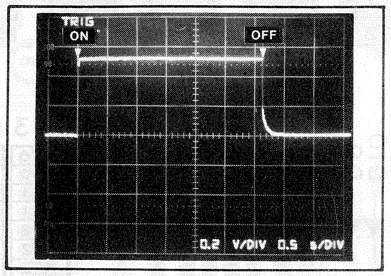
- IC'S
  IC1: MN50020PGV
  IC2: MN1231
- DIODES
  D1～74: MA162A

EJ II EFFECT, MIXING & JACK II CIRCUIT BOARD

■ Measuring Conditions

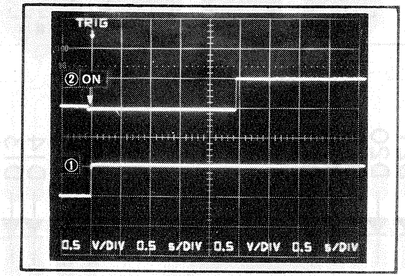
1. Set to the initial mode. (Refer to page I-3)
2. Set the all parts INITIAL TOUCH SENSE function (EFFECT MODE: Page 4) to "0". (Upper=0, Lower=0, Bass=0)
3. Change the unit setting as indicate below the pictures to confirm the waveforms.

❶ SNS



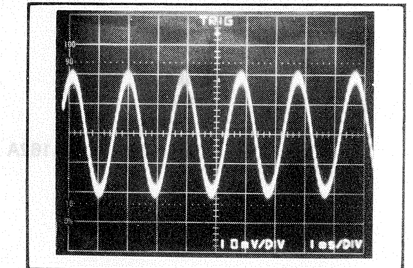
- Power SW.........ON→OFF

❷ Muting Control, ❶ SNS



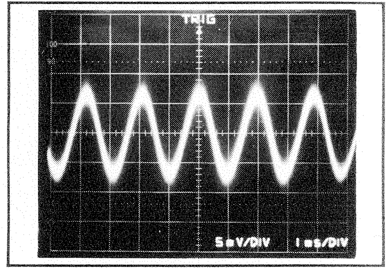
- Power SW..........................ON

❸ Upper Tab



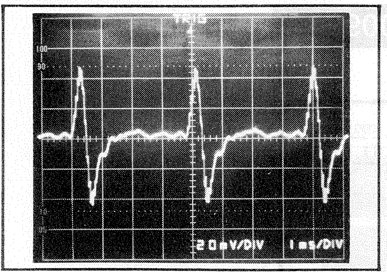
- Upper Tab..........................Flute 8′
- Upper Keyboard.................C4 Key

❹ Lower Tab



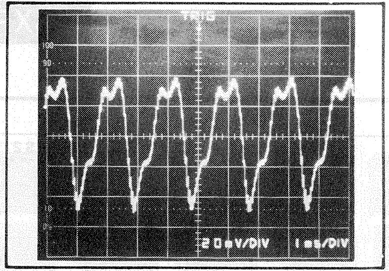
- Lower Tab ....Flute 8′
- Lower Keyboard ....C4 Key

❻ Special



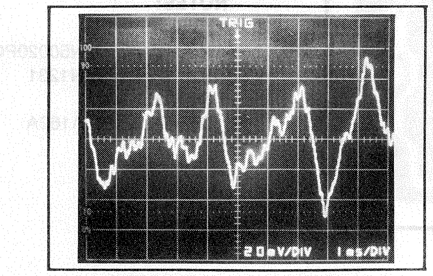
- Upper Special ....Trumpet
- Upper Keyboard.................C4 Key

❼ Solo



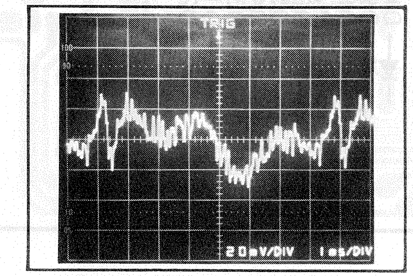
- Upper Solo ....Flute
- Upper Keyboard.................C4 Key

❽ Accomp 2 & 3



- Rhythm ....Hard Rock
- Arranger..............................Accomp 2 & 3
- LKB...C Key • Start/Stop...Start

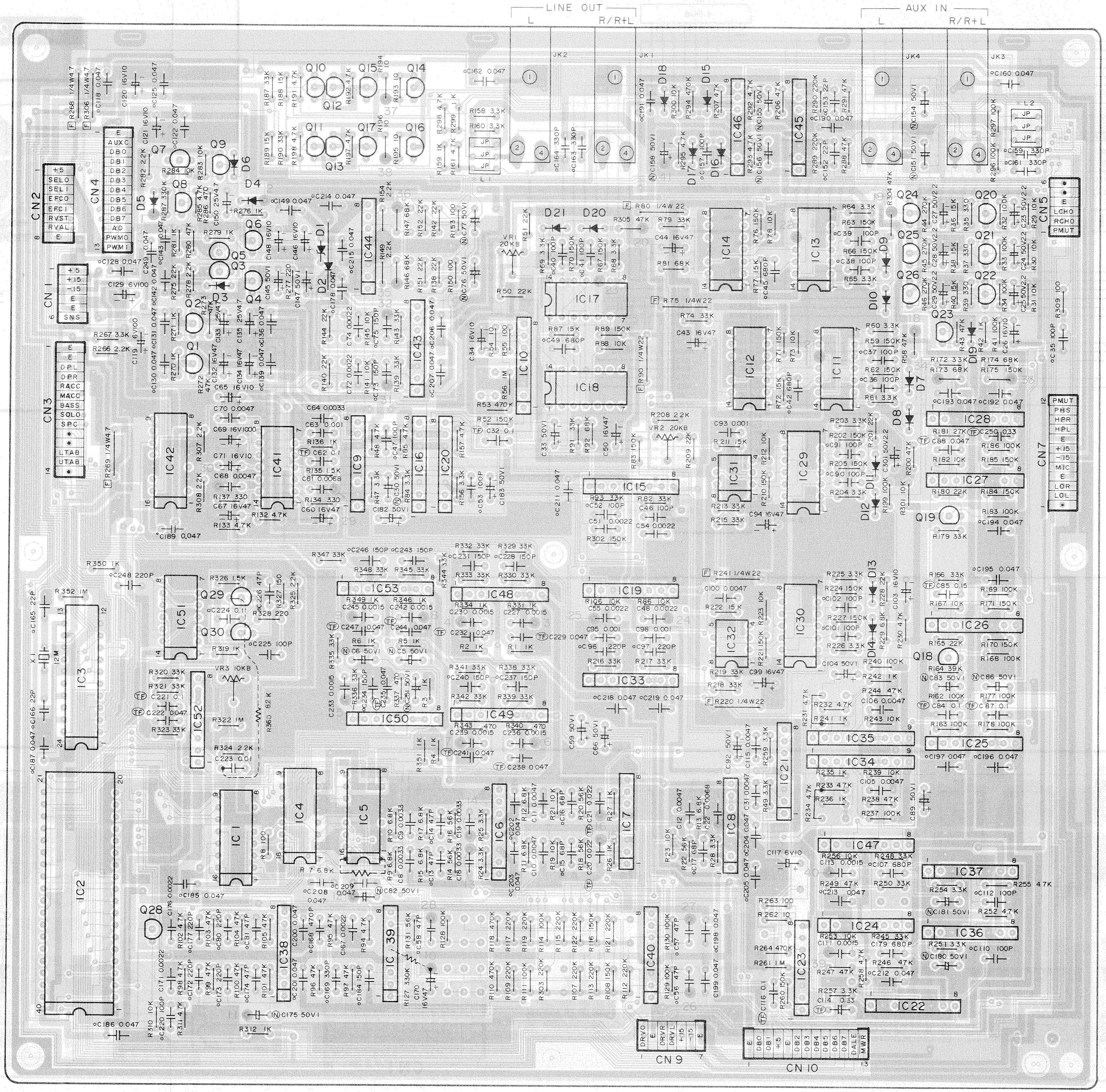
❾ Accomp 1



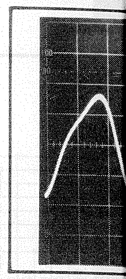
- Rhythm ....Hard Rock
- Arranger..............................Accomp 1
- LKB...C Key • Start/Stop...Start

Circuit view on top of P.C.B.

- [EZ] [M] [MC] [XM] [XL] areas **SXPG200431**
- Other areas **SXPG200411**


LINE OUT
L
R/R+L
AUX IN
L
R/R+L
JK1
JK2
JK3
JK4
CN1
CN2
CN3
CN4
CN5
CN7
CN9
CN10
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC12
IC13
IC14
IC15
IC16
IC17
IC18
IC19
IC20
IC21
IC22
IC23
IC24
IC25
IC26
IC27
IC28
IC29
IC30
IC31
IC32
IC33
IC34
IC35
IC36
IC37
IC38
IC39
IC40
IC41
IC42
IC43
IC44
IC45
IC46
IC47
IC48
IC49
IC50
IC51
IC52
IC53

❿ Bass



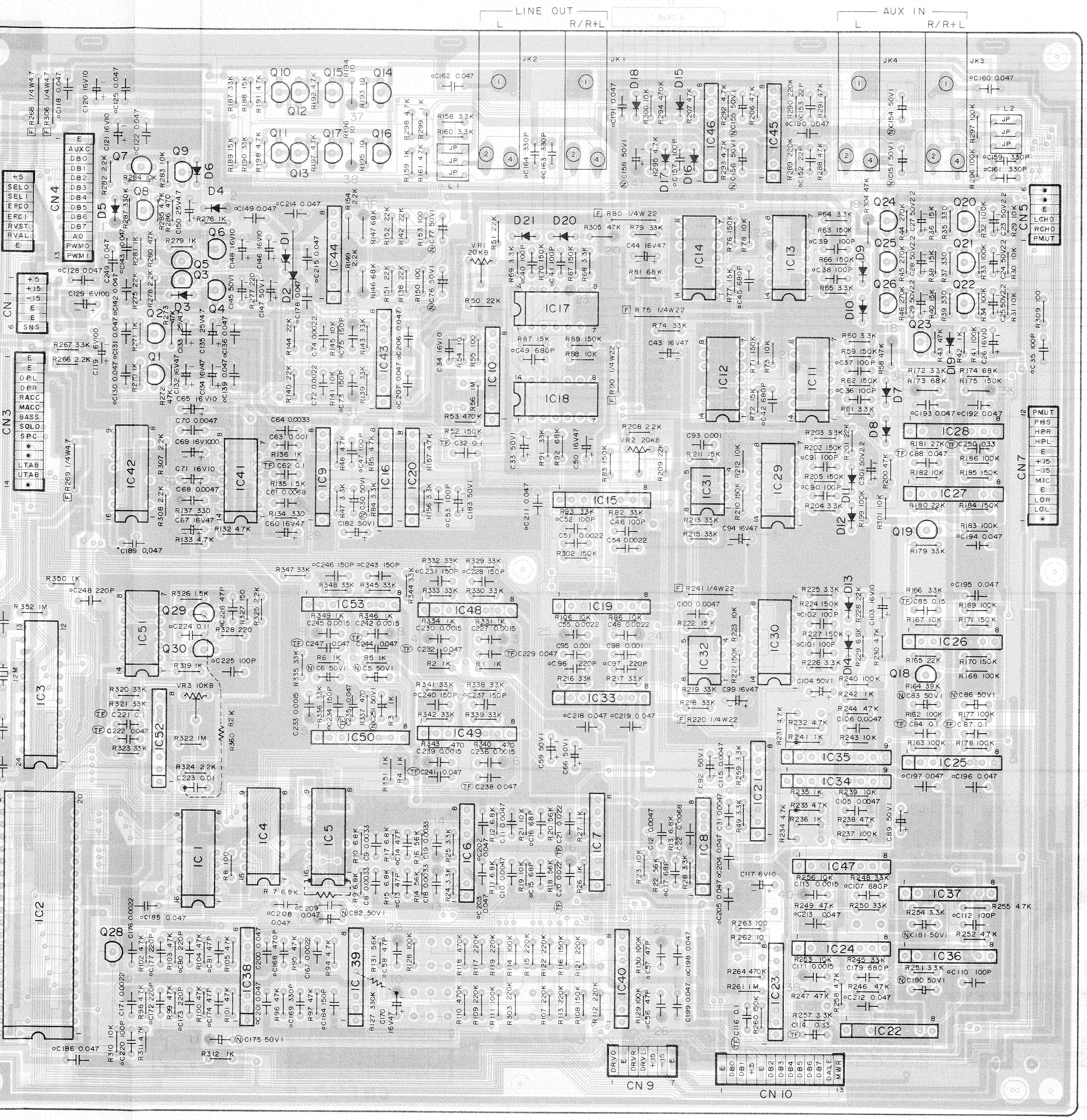
- Bass......
- Pedal Ke

NOTES:
- IC'S
  - IC1:
  - IC2:
  - IC3:
  - IC4, 5, 42:
  - IC6~8, 15,
    24~28,
    38~40,
    52, 53:
  - IC9, 16, 20,
    37:
  - IC10, 23:
  - IC11, 13, 1
    30:
  - IC12, 14, 1
  - IC31, 32:
  - IC34, 35:
  - IC41:
  - IC51:
- TRANSIST
  - Q1, 3, 4, 7,
    13, 20~2
    30:
  - Q2, 5, 6, 9,
    29:
  - Q14, 16:
  - Q15, 17:
  - Q18, 19:
- DIODES
  - D1:
  - D2:
  - D3~21:

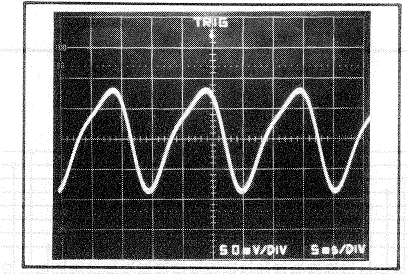
5 6 7 8 9 10 11 12 13 14

Circuit view on top of P.C.B.

• [EZ] [M] [MC] [XM] [XL] areas **SXPG200431** • Other areas **SXPG200411**

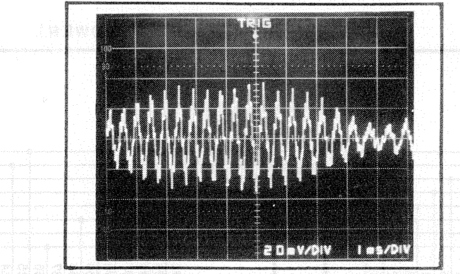

LINE OUT
L
R/R+L
AUX IN
L
R/R+L
JK2
JK1
JK4
JK3
CN4
CN1
CN3
CN5
CN7
CN9
CN10
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC12
IC13
IC14
IC15
IC16
IC17
IC18
IC19
IC20
IC21
IC22
IC23
IC24
IC25
IC26
IC27
IC28
IC29
IC30
IC31
IC32
IC33
IC34
IC35
IC36
IC37
IC38
IC39
IC40
IC41
IC42
IC43
IC44
IC45
IC46
IC47
IC48
IC49
IC50
IC51
IC52
IC53

⑩ Bass



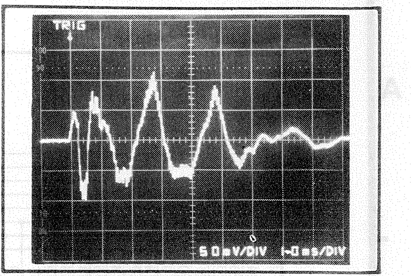
- Bass ....Organ
- Pedal Keyboard ....C2 Key

⑪ Drum Percussion (Rch)



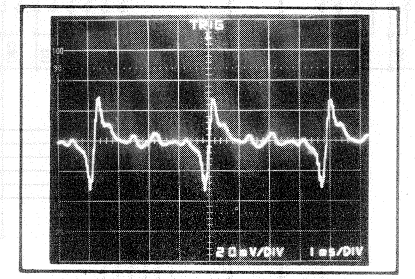
- Keyboard Perc. ....ON
- Lower Keyboard ....Whistle 1

⑫ Drum Percussion (Lch)



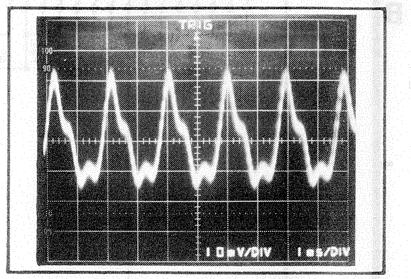
- Keyboard Percussion ....ON
- Lower Keyboard ....Bass Drum 1

⑬



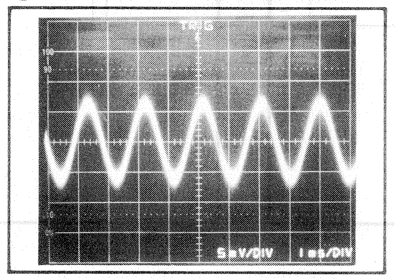
- Upper Poly...........................Trumpet
- Upper Keyboard..................C4 Key

⑭



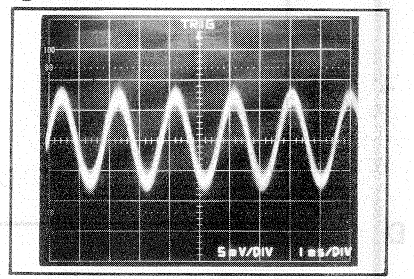
- Upper Solo ....Flute
- Upper Keyboard..................C4 Key

⑮



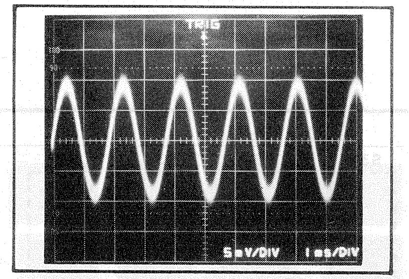
- Upper Tab...........................Flute 8′
- Celeste................................ON
- Upper Keyboard..................C4 Key

⑯



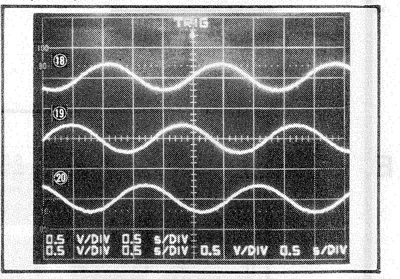
- Upper Tab...........................Flute 8′
- Tremolo ....ON
- Upper Keyboard..................C4 Key

⑰

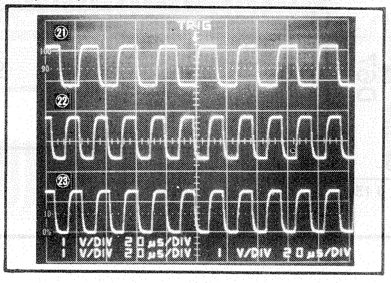


- Upper Tab...........................Flute 8′
- Reverb................................ON
- Upper Keyboard..................C4 Key

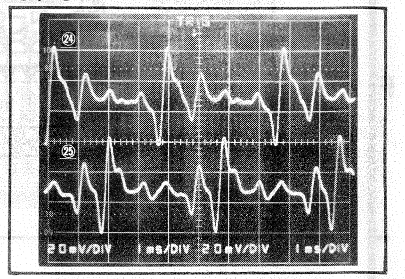
⑱, ⑲, ⑳



㉑, ㉒, ㉓



㉔, ㉕



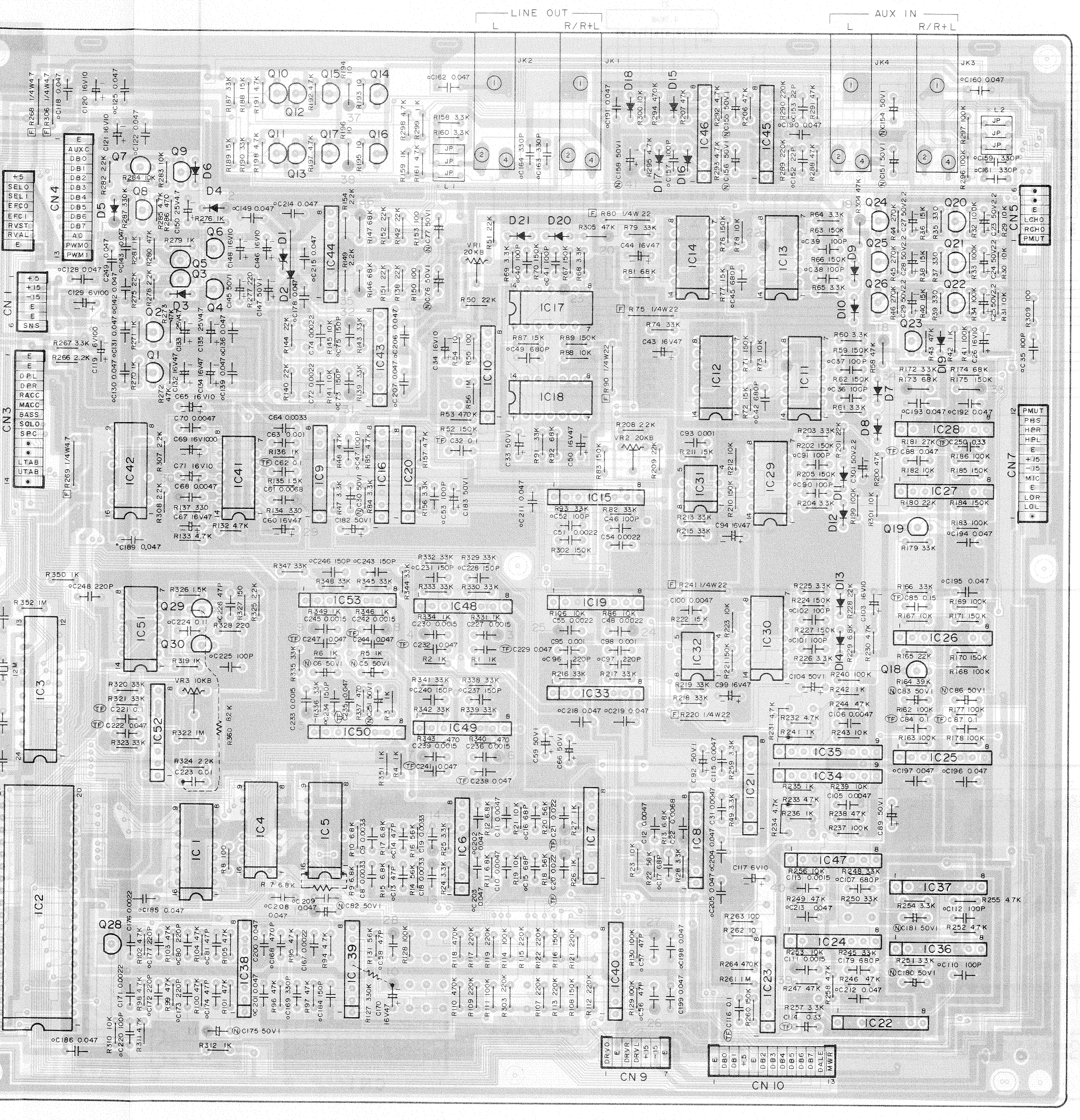
- Upper Poly...........................Trumpet
- Celeste................................ON
- Upper Keyboard..................C4 Key

NOTES:

- IC'S
  - IC1: SVIGTC4051BP
  - IC2: SVIG65002018
  - IC3: M66240P
  - IC4, 5, 42: SVIGTC4053BP
  - IC6～8, 15, 19, 21, 24～28, 33, 38～40, 43～50, 52, 53: SVIGM5218L
  - IC9, 16, 20, 22, 36, 37: SVIGUPC1252H
  - IC10, 23: SVIGUPC1253H
  - IC11, 13, 17, 29, 30: SVIGMSM4011
  - IC12, 14, 18: MN3004
  - IC31, 32: MN3006
  - IC34, 35: SVIGBA6110
  - IC41: SVIGLM1894N
  - IC51: SVIGM74H04
- TRANSISTORS
  - Q1, 3, 4, 7, 8, 12, 13, 20～26, 28, 30: 2SC2320LFG
  - Q2, 5, 6, 9, 10, 11, 29: 2SA1015-GR
  - Q14, 16: 2SC3940AR
  - Q15, 17: 2SA1534AR
  - Q18, 19: 2SJ105GR
- DIODES
  - D1: MA4062
  - D2: SVDGRK14S
  - D3～21: MA165TA5

Circuit view on top of P.C.B.

- [EZ] [M] [MC] [XM] [XL] areas **SXPG200431**
- Other areas **SXPG200411**


LINE OUT
L
R/R+L
AUX IN
L
R/R+L
JK1
JK2
JK3
JK4
CN1
CN3
CN4
CN5
CN7
CN9
CN10
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC12
IC13
IC14
IC15
IC16
IC17
IC18
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IC20
IC21
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IC23
IC24
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IC34
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IC39
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IC43
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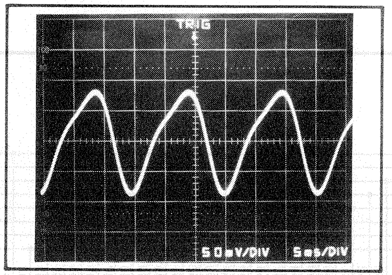
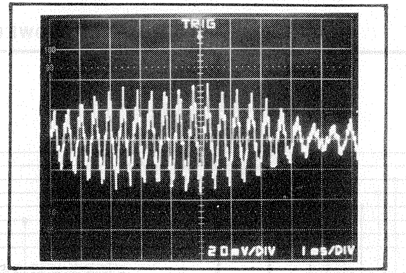
IC45
IC46
IC47
IC48
IC49
IC50
IC51
IC52
IC53

⑩ Bass



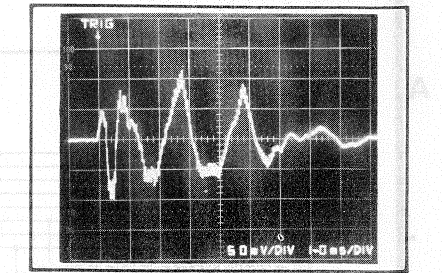
- Bass....................................Organ
- Pedal Keyboard ....C2 Key

⑪ Drum Percussion (Rch)



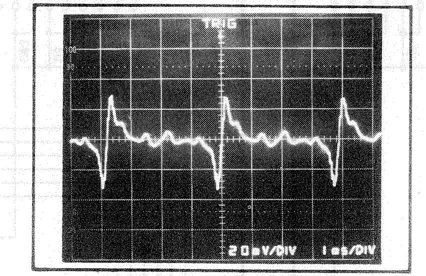
- Keyboard Perc. ....ON
- Lower Keyboard ....Whistle 1

⑫ Drum Percussion (Lch)



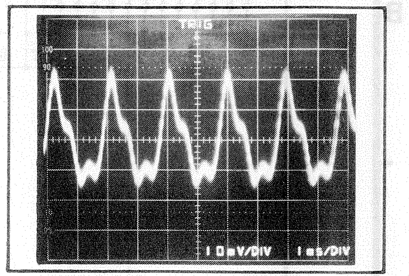
- Keyboard Percussion ....ON
- Lower Keyboard ....Bass Drum 1

⑬



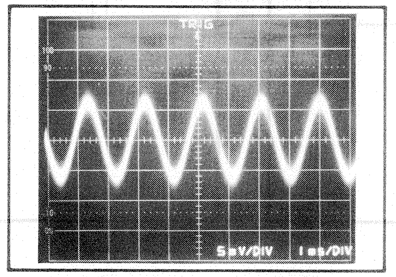
- Upper Poly............................Trumpet
- Upper Keyboard..................C4 Key

⑭



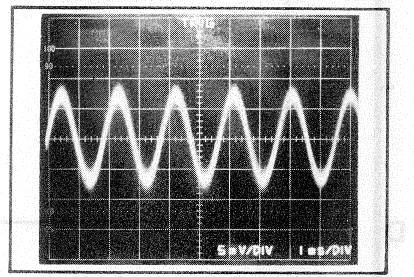
- Upper Solo ....Flute
- Upper Keyboard..................C4 Key

⑮



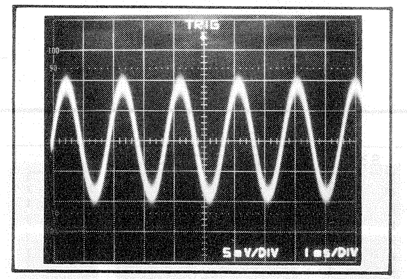
- Upper Tab...........................Flute 8′
- Celeste................................ON
- Upper Keyboard..................C4 Key

⑯



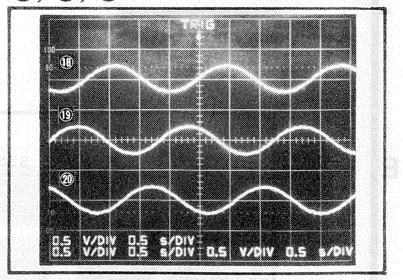
- Upper Tab...........................Flute 8′
- Tremolo ....ON
- Upper Keyboard..................C4 Key

⑰

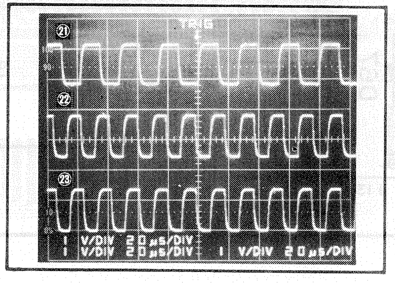


- Upper Tab...........................Flute 8′
- Reverb.................................ON
- Upper Keyboard..................C4 Key

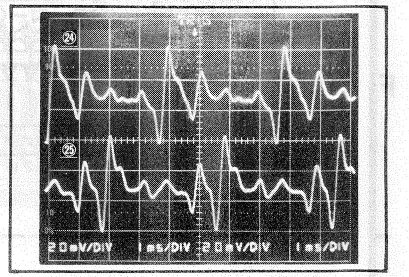
⑱, ⑲, ⑳



㉑, ㉒, ㉓



㉔, ㉕



- Upper Poly............................Trumpet
- Celeste................................ON
- Upper Keyboard..................C4 Key

NOTES:

- IC'S

IC1:	SVIGTC4051BP
IC2:	SVIG65002018
IC3:	M66240P
IC4, 5, 42:	SVIGTC4053BP
IC6~8, 15, 19, 21, 24~28, 33, 38~40, 43~50, 52, 53:	SVIGM5218L
IC9, 16, 20, 22, 36, 37:	SVIGUPC1252H
IC10, 23:	SVIGUPC1253H
IC11, 13, 17, 29, 30:	SVIGMSM4011
IC12, 14, 18:	MN3004
IC31, 32:	MN3006
IC34, 35:	SVIGBA6110
IC41:	SVIGLM1894N
IC51:	SVIGM74H04

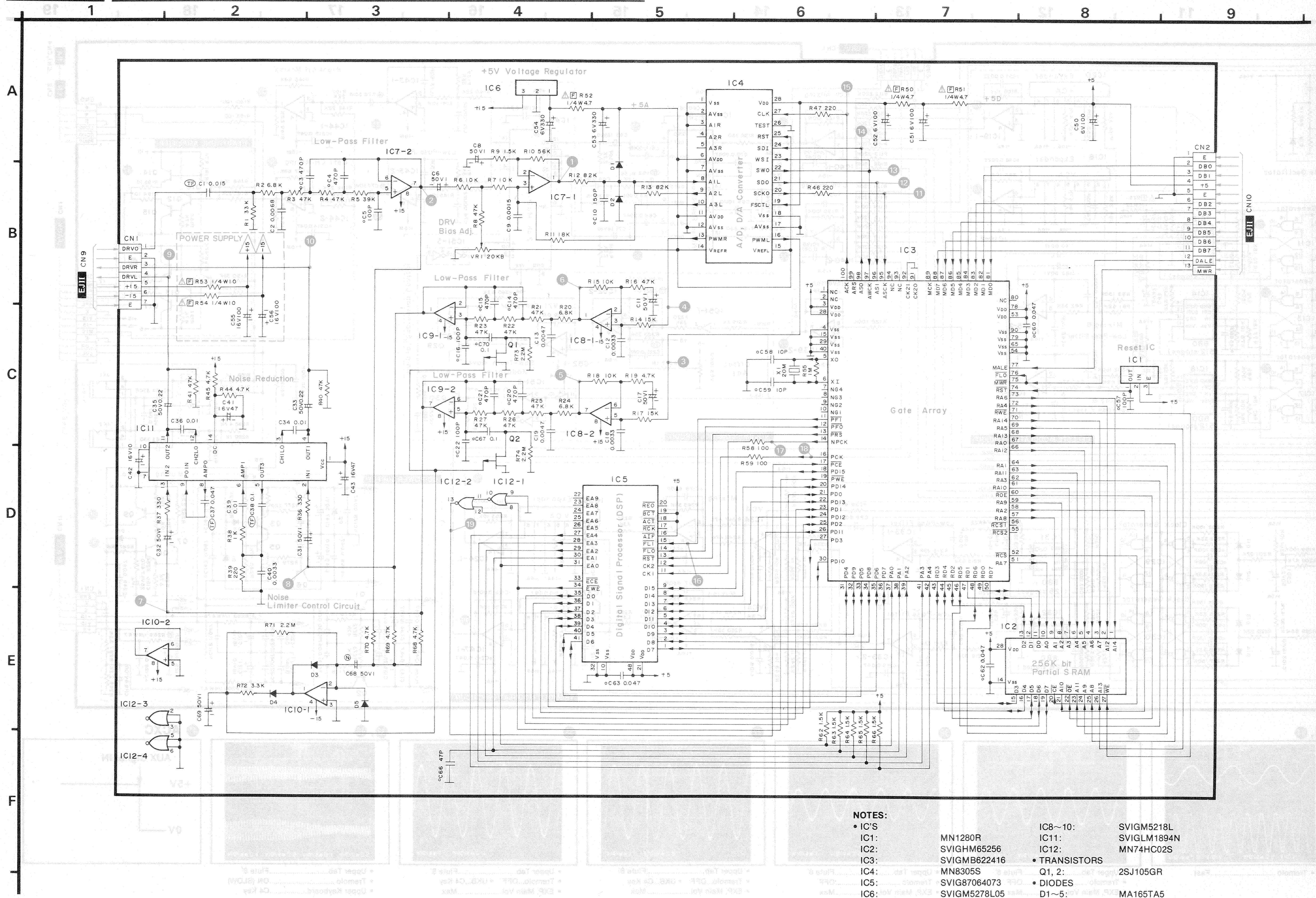
- TRANSISTORS

Q1, 3, 4, 7, 8, 12, 13, 20~26, 28, 30:	2SC2320LFG
Q2, 5, 6, 9, 10, 11, 29:	2SA1015-GR
Q14, 16:	2SC3940AR
Q15, 17:	2SA1534AR
Q18, 19:	2SJ105GR

- DIODES

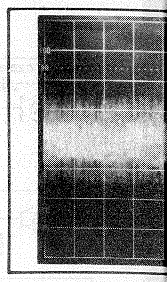
D1:	MA4062
D2:	SVDGRK14S
D3~21:	MA165TA5

DIGITAL REVERB CIRCUIT DIAGRAM


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
+5V Voltage Regulator
IC6
IC4
A/D, D/A Converter
IC3
Gate Array
IC5
Digital Signal Processor (DSP)
IC2
256K bit Partial S RAM
IC1
Reset IC
IC7-2
IC7-1
Low-Pass Filter
DRV Bias Adj.
VR1 20KB
POWER SUPPLY
Noise Reduction
IC11
Noise Limiter Control Circuit
IC8-1
IC8-2
IC9-1
IC9-2
IC10-1
IC10-2
IC12-1
IC12-2
IC12-3
IC12-4
Q1
Q2
CN1
CN2
CN9
CN10
EJII
DRVO
DRVR
DRVL
+15
-15
E
DB0
DB1
DB2
DB3
DB4
DB5
DB6
DB7
DALE
MWR
R52 1/4W4.7
R50 1/4W4.7
R51 1/4W4.7
R53 1/4W10
R54 1/4W10
R47 220
R46 220
+5A
+5D
XI 20M
R58 100
R59 100

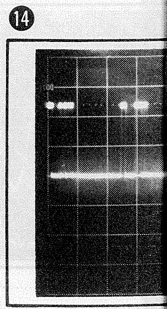
NOTES:

• IC'S	
IC1:	MN1280R
IC2:	SVIGHM65256
IC3:	SVIGMB622416
IC4:	MN8305S
IC5:	SVIG87064073
IC6:	SVIGM5278L05
IC7:	SVIGM5220L
IC8～10:	SVIGM5218L
IC11:	SVIGLM1894N
IC12:	MN74HC02S
• TRANSISTORS	
Q1, 2:	2SJ105GR
• DIODES	
D1～5:	MA165TA5



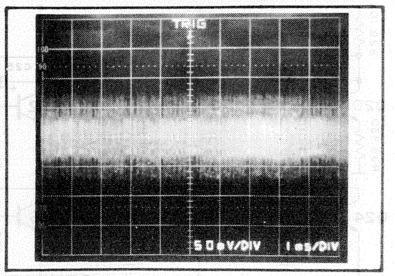
■ Measu

1. Set t
2. Set t
(EFF
Lowe
3. Set t
- Upp
- Upp
- Rev
- Effe
- Rev
- TYF
- Upp

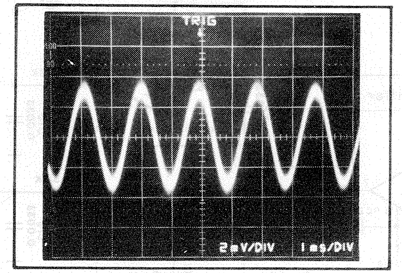


DRV DIGITAL REVERB CIRCUIT BOARD

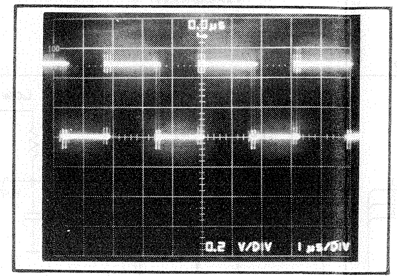
❶



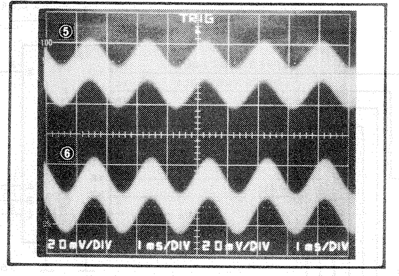
❷



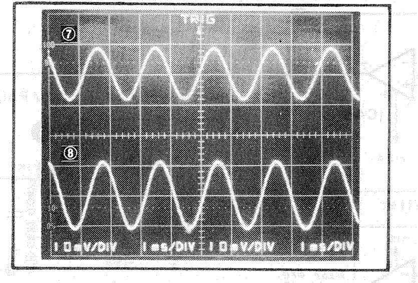
❸, ❹



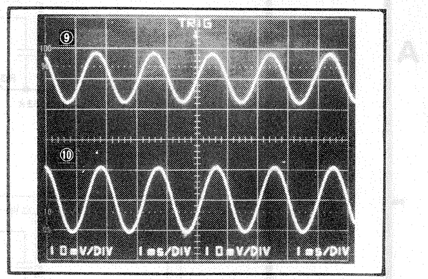
❺, ❻



❼, ❽



❾, ❿

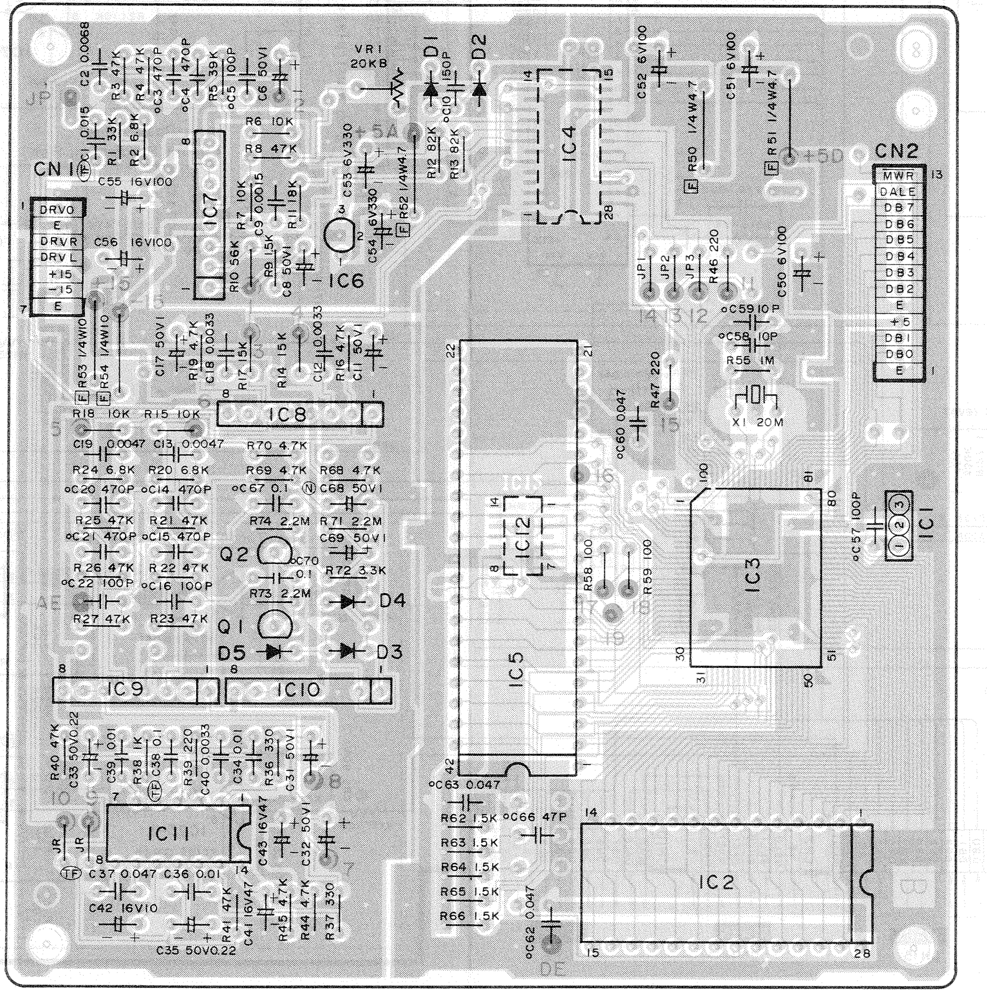


■ Measuring Conditions

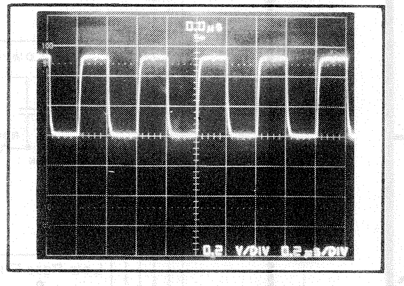
1. Set to the initial mode. (Refer to page I-3)
2. Set the all parts INITIAL TOUCH SENSE function (EFFECT MODE: Page 4) to "0". (Upper=0, Lower=0, Bass=0)
3. Set the unit as follows.
   - Upper Orchestral Conductor..........Tab & Organ
   - Upper Tab & Organ..........Flute 8'
   - Reverb (Upper Tab)..........ON
   - Effect..........Page 1
   - Reverb Depth..........."8"
   - TYPE..........HALL
   - Upper Keyboard..........C4 Key

Circuit view on top of P.C.B.

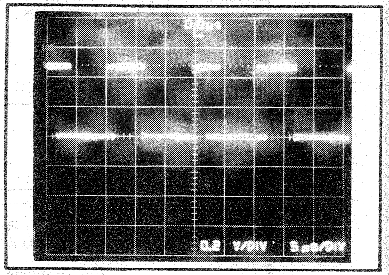
SXPG146021


CN1
DRVO
E
DRVR
DRVL
+15
-15
E
CN2
MWR
DALE
DB7
DB6
DB5
DB4
DB3
DB2
E
+5
DB1
DB0
E
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC12
Q1
Q2
D1
D2
D3
D4
D5
VR1 20KB
X1 20M
JP1
JP2
JP3
+5A
+5D

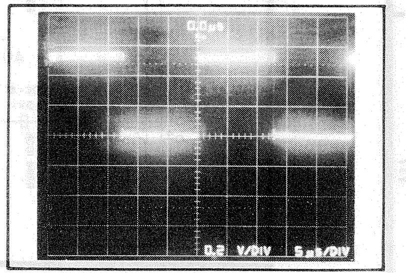
⓫



⓬

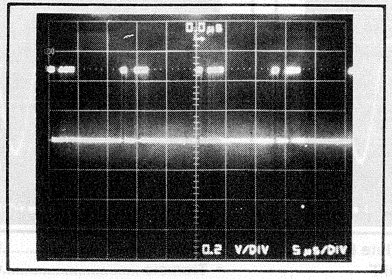


⓭

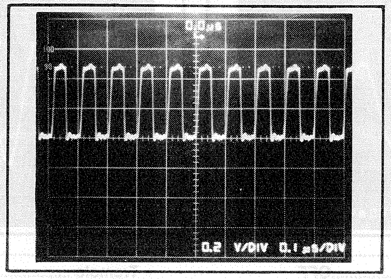


NOTES:
- IC'S
  IC1: MN1280R
  IC2: SVIGHM65256
  IC3: SVIGM622416
  IC4: MN8305S
  IC5: SVIG87064073
  IC6: SVIGM5278L05
  IC7: SVIGM5220L
  IC8~10: SVIGM5218L
  IC11: SVIGLM1894N
  IC12: MN74HC02S
- TRANSISTORS
  Q1, 2: 2SJ105GR
- DIODES
  D1~5: MA165TA5

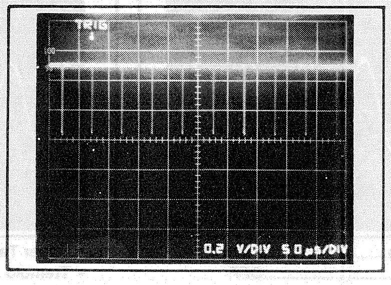
⓮



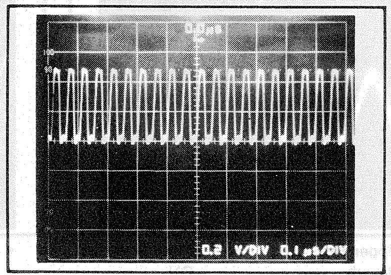
⓯



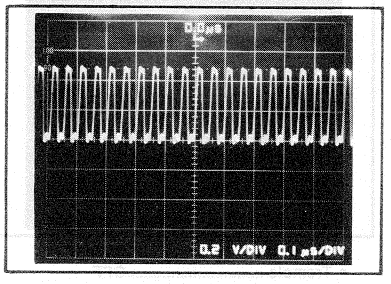
⓰



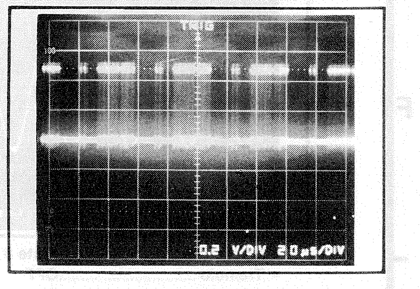
⓱



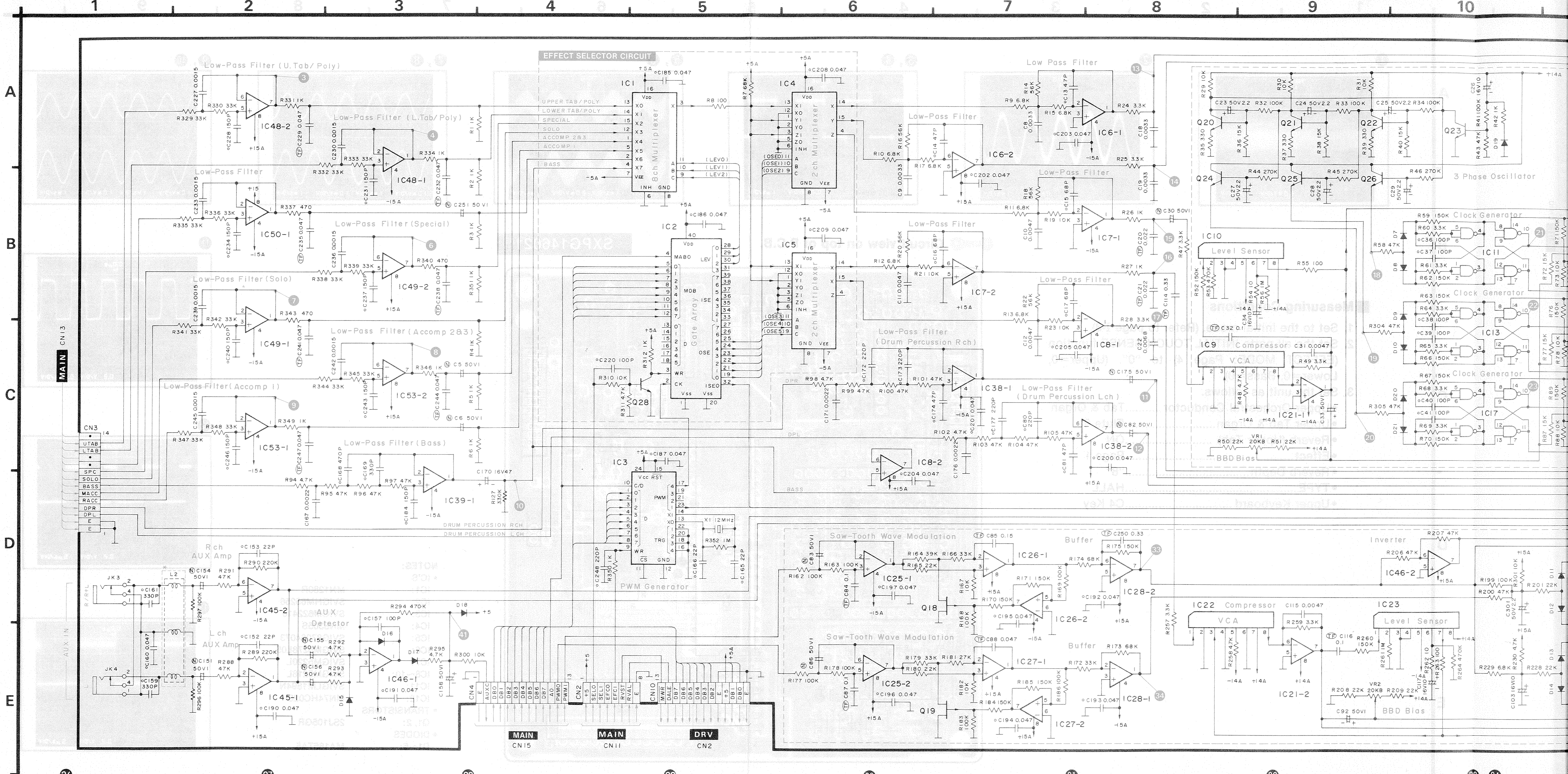
⓲



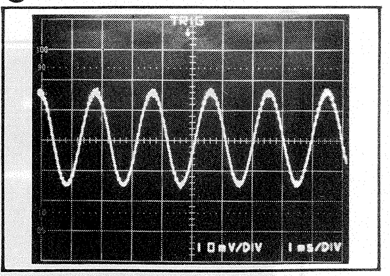
⓳



EJ Ⅱ EFFECT, MIXING & JACK Ⅱ CIRCUIT DIAGRAM

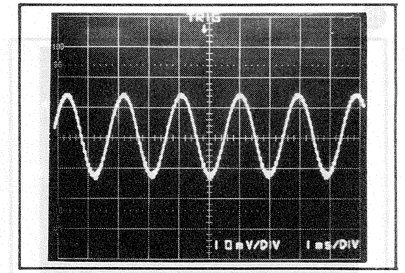

1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
Low-Pass Filter (U.Tab/Poly)
Low-Pass Filter (L.Tab/Poly)
Low-Pass Filter
Low-Pass Filter (Special)
Low-Pass Filter (Solo)
Low-Pass Filter (Accomp 2&3)
Low-Pass Filter (Accomp 1)
Low-Pass Filter (Bass)
EFFECT SELECTOR CIRCUIT
IC1
8ch Multiplexer
IC2
Gate Array
IC3
PWM Generator
IC4
2ch Multiplexer
IC5
2ch Multiplexer
Low Pass Filter
Low-Pass Filter (Drum Percussion Rch)
Low-Pass Filter (Drum Percussion Lch)
3 Phase Oscillator
Clock Generator
IC10
Level Sensor
IC9
Compressor
VCA
BBD Bias
Rch AUX Amp
Lch AUX Amp
AUX Detector
AUX IN
JK3
JK4
Saw-Tooth Wave Modulation
Buffer
Inverter
IC22
Compressor
VCA
IC23
Level Sensor
BBD Bias
MAIN CN13
CN3
UTAB
LTAB
SPC
SOLO
BASS
MACC
RACC
DPR
DPL
MAIN CN15
MAIN CN11
DRV CN2

㉖



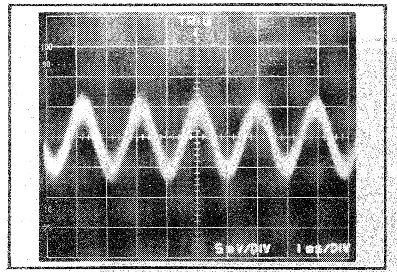
- Upper Tab..............................Flute 8′
- Tremolo..................................OFF
- Upper Keyboard.....................C4 Key

㉗



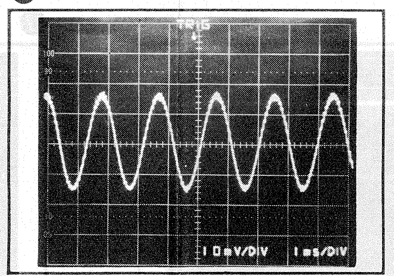
- Upper Tab..............................Flute 8′
- Tremolo..................................OFF
- Upper Keyboard.....................C4 Key

㉘



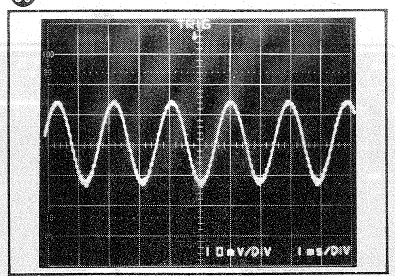
- Upper Tab..............................Flute 8′
- Reverb...................................ON
- Upper Keyboard.....................C4 Key

㉙



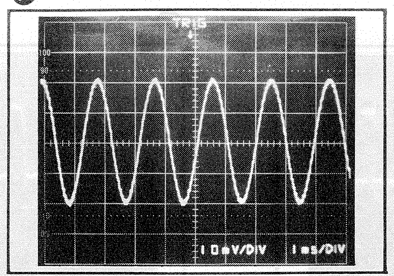
- Upper Tab..............................Flute 8′
- Tremolo..................................OFF
- Upper Keyboard.....................C4 Key

㉚



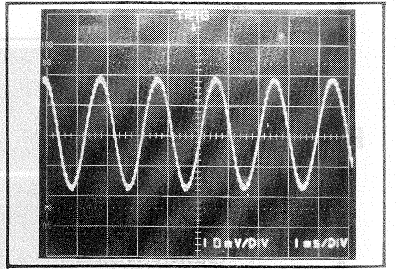
- Upper Tab..............................Flute 8′
- Tremolo..................................OFF
- Upper Keyboard.....................C4 Key

㉛



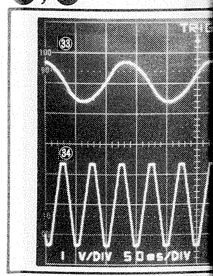
- Upper Tab..............................Flute 8′
- Tremolo..................................OFF
- EXP, Main Vol.......................Max
- Upper Keyboard.....................C4 Key

㉜

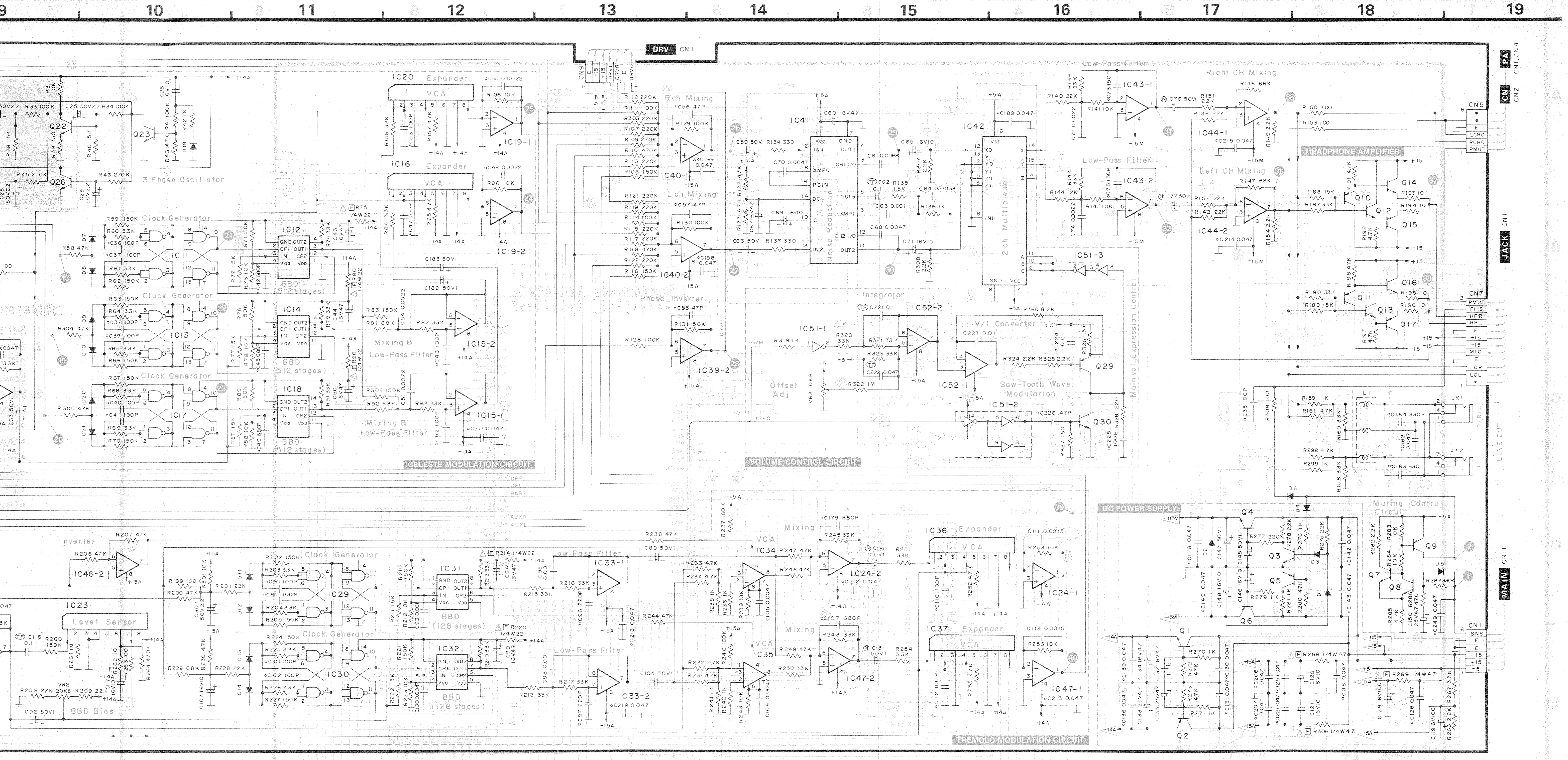


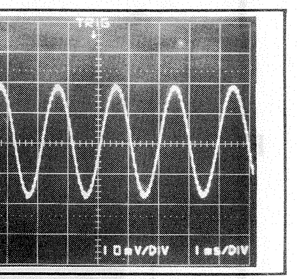
- Upper Tab..............................Flute 8′
- Tremolo..................................OFF
- EXP, Main Vol.......................Max
- Upper Keyboard.....................C4 Key

㉝, ㉞



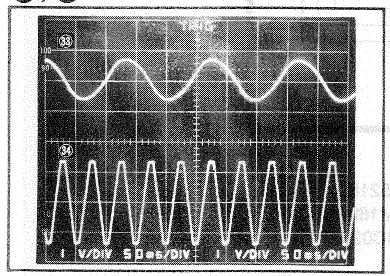
- Tremolo


9
10
11
12
13
14
15
16
17
18
19
DRV CN1
PA CN1,CN4
CN CN2
JACK CN1
MAIN CN11
3 Phase Oscillator
Clock Generator
IC20 Expander
VCA
IC16 Expander
IC19-1
IC19-2
IC12
IC14
IC18
IC11
IC13
IC17
BBD (512 stages)
Mixing & Low-Pass Filter
IC15-1
IC15-2
CELESTE MODULATION CIRCUIT
Rch Mixing
Lch Mixing
Phase Inverter
IC40-1
IC40-2
IC39-2
IC41
Noise Reduction
IC42
2ch Multiplexer
Low-Pass Filter
IC43-1
IC43-2
Right CH Mixing
Left CH Mixing
IC44-1
IC44-2
HEADPHONE AMPLIFIER
Q10
Q11
Q12
Q13
Q14
Q15
Q16
Q17
Integrator
IC52-2
IC51-1
IC51-2
IC51-3
IC52-1
V/I Converter
Saw-Tooth Wave Modulation
Offset Adj
Main vol. Expression Control
Q29
Q30
VOLUME CONTROL CIRCUIT
CN5
CN7
CN1
JK1
JK2
LINE OUT
DC POWER SUPPLY
Muting Control Circuit
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
Q9
Inverter
IC46-2
IC23
Level Sensor
BBD Bias
IC29
IC30
IC31
IC32
BBD (128 stages)
Low-Pass Filter
IC33-1
IC33-2
VCA
IC34
IC35
Mixing
IC24-2
IC47-2
IC36 Expander
IC37 Expander
IC24-1
IC47-1
TREMOLO MODULATION CIRCUIT



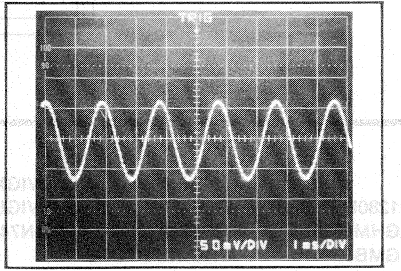
Tab..........................Flute 8'
lo..........................OFF
ain Vol...................Max
Keyboard.................C4 Key

㉝, ㉞



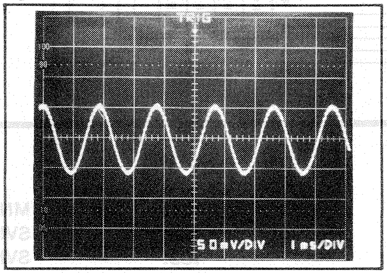
- Tremolo ....Fast

㉟



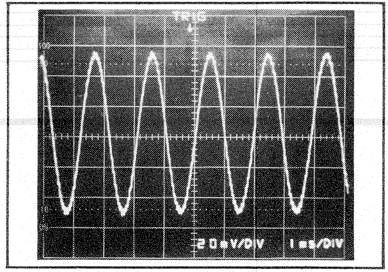
- Upper Tab..........................Flute 8'
- Tremolo ....OFF
- EXP, Main Vol.....................Max
- Upper Keyboard.................C4 Key

㊱



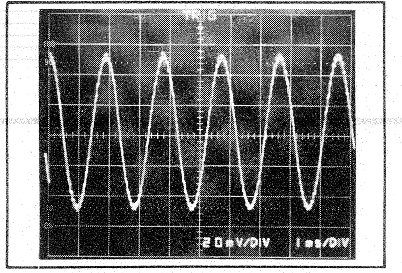
- Upper Tab..........................Flute 8'
- Tremolo ....OFF
- EXP, Main Vol.....................Max
- Upper Keyboard.................C4 Key

㊲



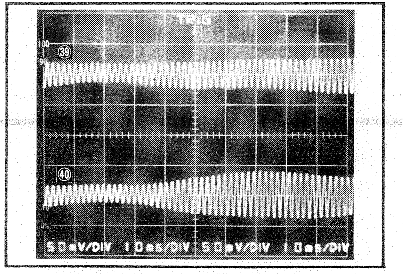
- Upper Tab..........................Flute 8'
- Tremolo...OFF • UKB...C4 Key
- EXP, Main Vol.....................Max

㊳



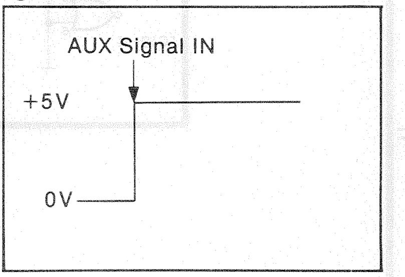
- Upper Tab..........................Flute 8'
- Tremolo...OFF • UKB...C4 Key
- EXP, Main Vol.....................Max

㊴, ㊵



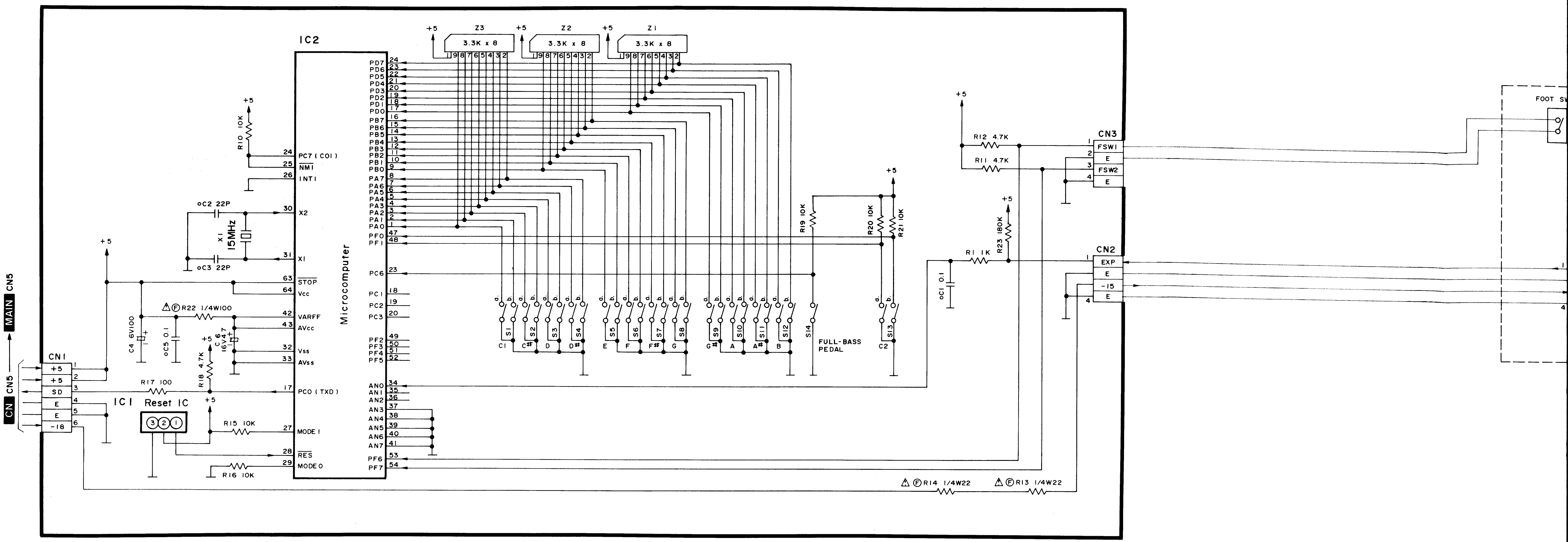
- Upper Tab..........................Flute 8'
- Tremolo ....ON (SLOW)
- Upper Keyboard.................C4 Key

㊶ **ACXC**


AUX Signal IN
+5V
0V

PKB

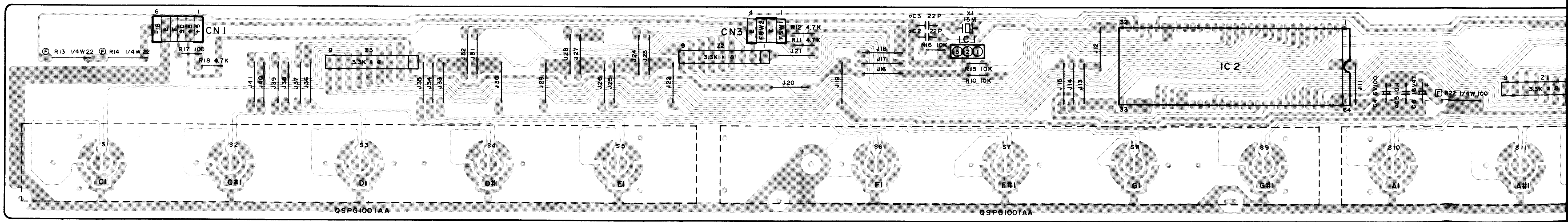
PEDAL KEYBOARD CIRCUIT DIAGRAM


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
IC2
Microcomputer
Z3 3.3K x 8
Z2 3.3K x 8
Z1 3.3K x 8
+5
PD7
PD6
PD5
PD4
PD3
PD2
PD1
PD0
PB7
PB6
PB5
PB4
PB3
PB2
PB1
PB0
PA7
PA6
PA5
PA4
PA3
PA2
PA1
PA0
PF0
PF1
PC6
PC1
PC2
PC3
PF2
PF3
PF4
PF5
AN0
AN1
AN2
AN3
AN4
AN5
AN6
AN7
PF6
PF7
PC7 (COI)
NMI
INTI
X2
X1
STOP
Vcc
VARFF
AVcc
Vss
AVss
PC0 (TXD)
MODE 1
RES
MODE 0
R10 10K
C2 22P
C3 22P
X1 15MHz
C4 6V100
C5 0.1
C6 16V47
R22 1/4W100
R18 4.7K
R17 100
R15 10K
R16 10K
IC1
Reset IC
CN1
+5
+5
SD
E
E
-18
MAIN CN5
CN CN5
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
S12
S13
S14
C1
C#
D
D#
E
F
F#
G
G#
A
A#
B
C2
FULL-BASS PEDAL
R19 10K
R20 10K
R21 10K
R12 4.7K
R11 4.7K
R1 1K
R23 180K
C1 0.1
CN3
FSW1
E
FSW2
E
CN2
EXP
E
-15
E
R14 1/4W22
R13 1/4W22
FOOT SW

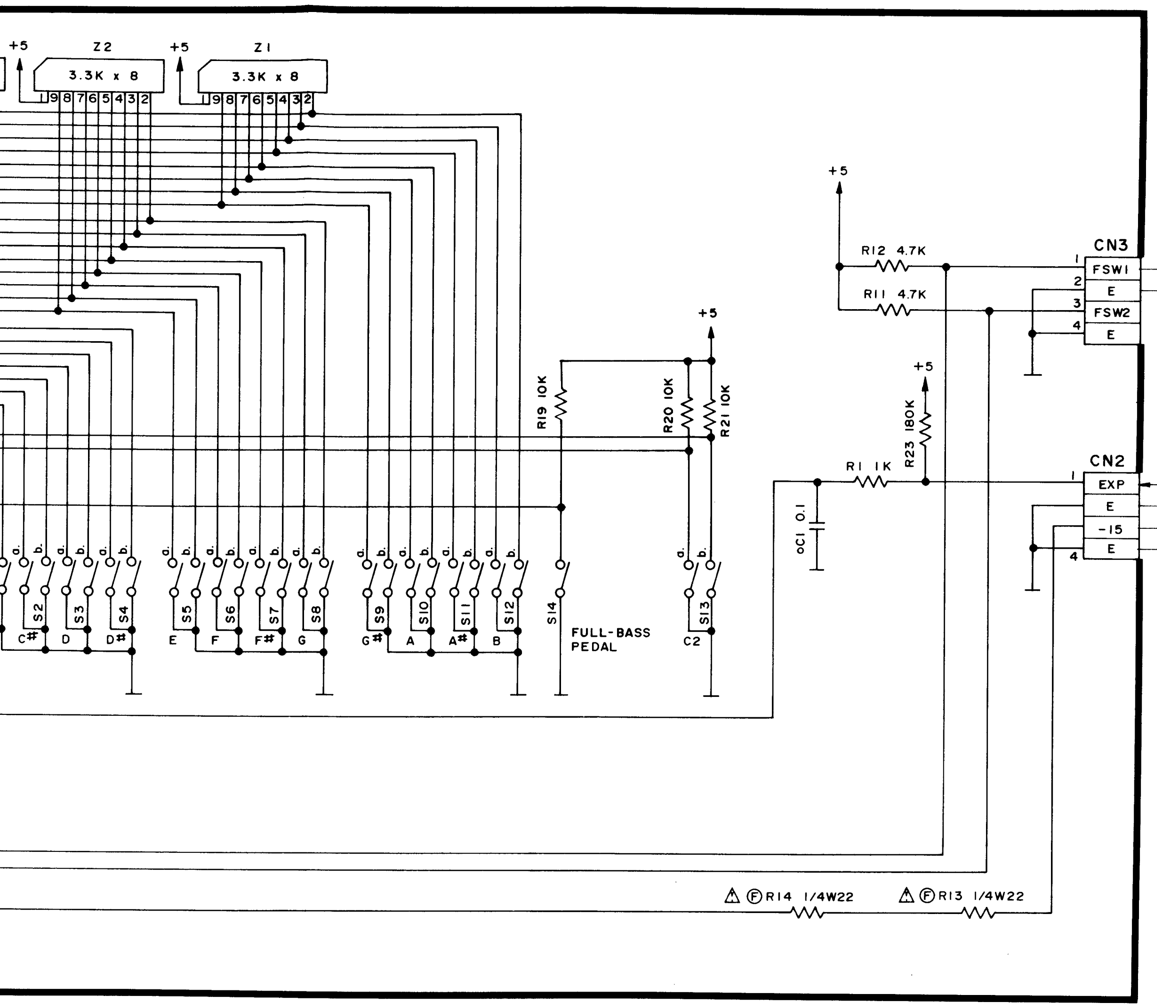
NOTES:
- IC'S
  - IC1: MN1280R
  - IC2: D78C11AWF03

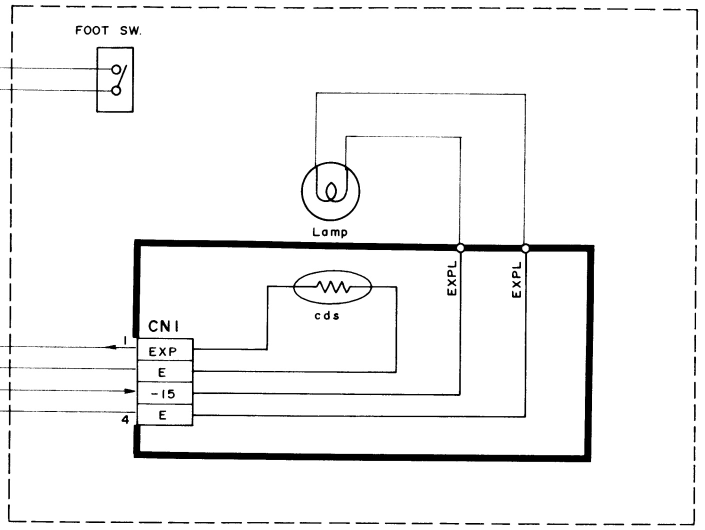
PKB

PEDAL KEYBOARD CIRCUIT BOARD

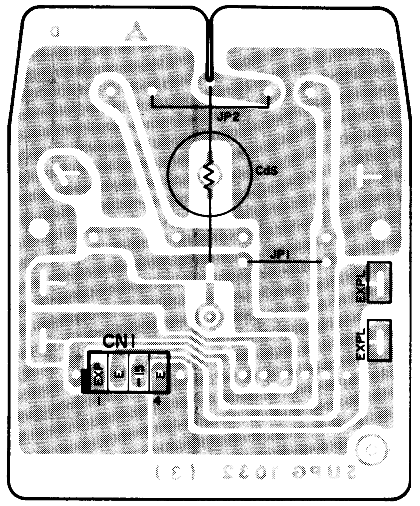

CN1
R13 1/4W22
R14 1/4W22
R17 100
R18 4.7K
Z3 3.3K x 8
CN3
R12 4.7K
R11 4.7K
Z2 3.3K x 8
C3 22P
C2 22P
X1 15M
IC1
R16 10K
R15 10K
R10 10K
IC2
C4 6V100
C5 0.1
C6 16V47
R22 1/4W100
Z1 3.3K x 8
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
C1
C#1
D1
D#1
E1
F1
F#1
G1
G#1
A1
A#1
QSPG1001AA
QSPG1001AA

EXP EXPRESSION CIRCUIT


+5
Z2
3.3K x 8
Z1
3.3K x 8
9 8 7 6 5 4 3 2
+5
R12 4.7K
R11 4.7K
CN3
FSW1
E
FSW2
E
+5
R19 10K
R20 10K
R21 10K
+5
R23 180K
R1 1K
C1 0.1
CN2
EXP
E
-15
E
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
S12
S14
S13
C#
D
D#
E
F
F#
G
G#
A
A#
B
FULL-BASS PEDAL
C2
ⒻR14 1/4W22
ⒻR13 1/4W22


FOOT SW.
Lamp
cds
CN1
EXP
E
-15
E
EXPL
EXPL

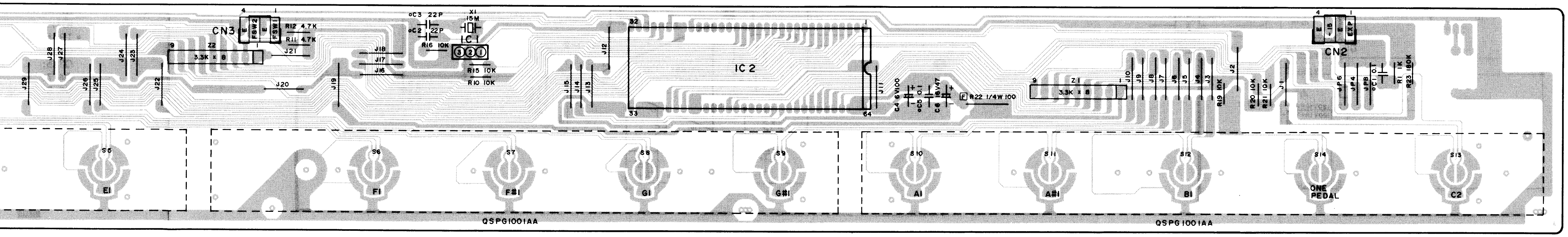
SXPG103211


JP2
CdS
JP1
CN1
EXP
E
-15
E
EXPL
EXPL
SUPG 1032 (3)

NOTES:
- IC'S
  - IC1: MN1280R
  - IC2: D78C11AWF03

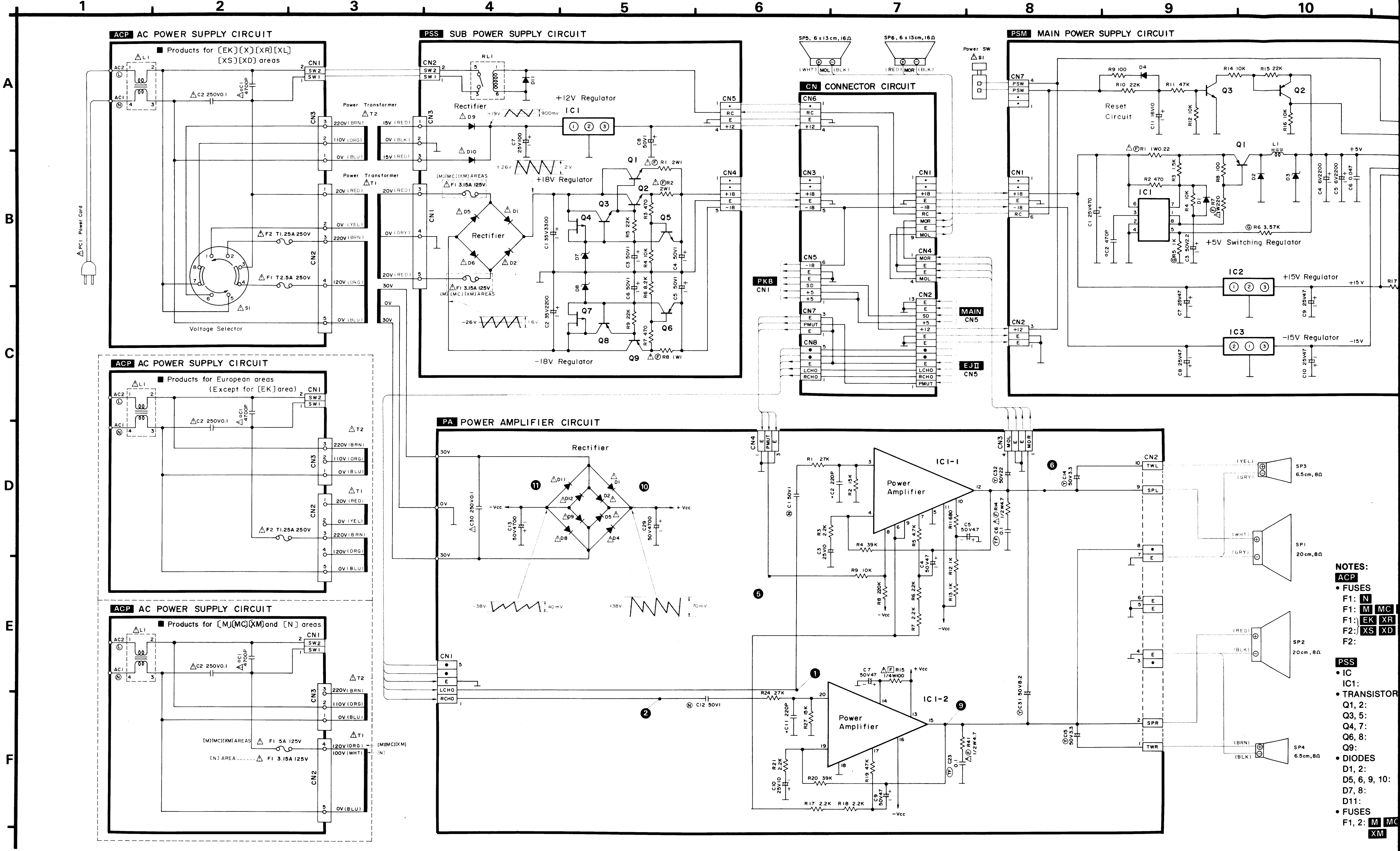
D

SXPG201211


CN3
FSW2
FSW1
R12 4.7K
R11 4.7K
Z2
3.3K x 8
J21
C3 22P
C2 22P
X1
R16 10K
IC1
R15 10K
R10 10K
J18
J17
J16
J20
J19
IC2
J12
J11
Z1
3.3K x 8
CN2
EXP
R22 1/4W 100
R19 10K
R20 10K
R21 10K
R1 1K
R23 180K
S5
S6
S7
S8
S9
S10
S11
S12
S14
S13
E1
F1
F#1
G1
G#1
A1
A#1
B1
ONE PEDAL
C2
QSPG1001AA
QSPG1001AA

ACP **PSS** **PSM** **PA** **CN**

AC POWER SUPPLY, SUB POWER SUPPLY, MAIN POWER SUPPLY, POWER AMPLIFI


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
ACP AC POWER SUPPLY CIRCUIT
■ Products for [EK][X][XR][XL] [XS][XD] areas
PSS SUB POWER SUPPLY CIRCUIT
PSM MAIN POWER SUPPLY CIRCUIT
CN CONNECTOR CIRCUIT
PA POWER AMPLIFIER CIRCUIT
ACP AC POWER SUPPLY CIRCUIT
■ Products for European areas (Except for [EK] area)
ACP AC POWER SUPPLY CIRCUIT
■ Products for [MJ][MC][XM] and [N] areas.
Power Cord
PC1
Voltage Selector
S1
Power Transformer T2
Power Transformer T1
F2 T1.25A 250V
F1 T2.5A 250V
C2 250V0.1
C1 4700P
220V (BRN)
110V (ORG)
0V (BLU)
20V (RED)
0V (YEL)
120V (ORG)
15V (RED)
0V (BLK)
20V (RED)
0V (GRY)
30V
0V
RL1
Rectifier
+12V Regulator
IC1
+18V Regulator
-18V Regulator
[MJ][MC][XM] AREAS
F1 3.15A 125V
D1
D2
D5
D6
D7
D8
D9
D10
D11
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
Q9
+19V
900mV
+26V
2V
-26V
1.6V
C1 35V3300
C2 35V2200
C7 25V100
C8 50V1
R1 2W1
R2 2W1
R8 1W1
SP5, 6 x 13cm, 16Ω
SP6, 6 x 13cm, 16Ω
(WHT)
MOL
(BLK)
(RED)
MOR
Power SW
S1
PKB CN1
MAIN CN5
EJII CN5
RC
E
+12
+18
-18
MOR
MOL
SD
+5
PMUT
LCHO
RCHO
CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
Reset Circuit
R9 100
D4
R10 22K
R11 47K
R14 10K
R15 22K
C11 16V10
R12 10K
R16 10K
R1 1W0.22
L1
+5V
C4 6V2200
C5 6V2200
C6 0.047
R2 470
R3 1.5K
R8 100
R4 10K
R7 1W220
R6 3.57K
R5 1K
C3 50V2.2
C1 25V470
C2 470P
+5V Switching Regulator
IC2
+15V Regulator
+15V
R17
IC3
-15V Regulator
-15V
C7 25V47
C8 25V47
C9 25V47
C10 25V47
Rectifier
-Vcc
+Vcc
C30 250V0.1
C13 50V4700
C29 50V4700
-38V
40mV
+38V
70mV
IC1-1
Power Amplifier
IC1-2
R1 27K
C2 220P
R2 15K
C1 50V1
R3 2.2K
C3 25V10
R4 39K
R5 4.7K
R9 10K
R8 220K
R6 2.2K
R7 2.2K
C4 50V4.7
R2 1K
R3 1K
R11 680
C5 50V4.7
C6 0.1
R14 1/2W4.7
C32 50V22
C14 50V3.3
C31 50V8.2
C7 50V47
R15 1/4W100
R24 27K
C12 50V1
C11 220P
R27 15K
R21 2.2K
C10 25V10
R20 39K
R19 47K
C9 50V47
R17 2.2K
R18 2.2K
C23 0.1
R41 1/2W4.7
C15 50V3.3
TWL
SPL
SPR
TWR
(YEL)
(GRY)
(WHT)
(RED)
(BLK)
(BRN)
SP3 6.5cm, 8Ω
SP1 20cm, 8Ω
SP2 20cm, 8Ω
SP4 6.5cm, 8Ω
①
②
⑤
⑥
⑨
⑩
⑪

NOTES:

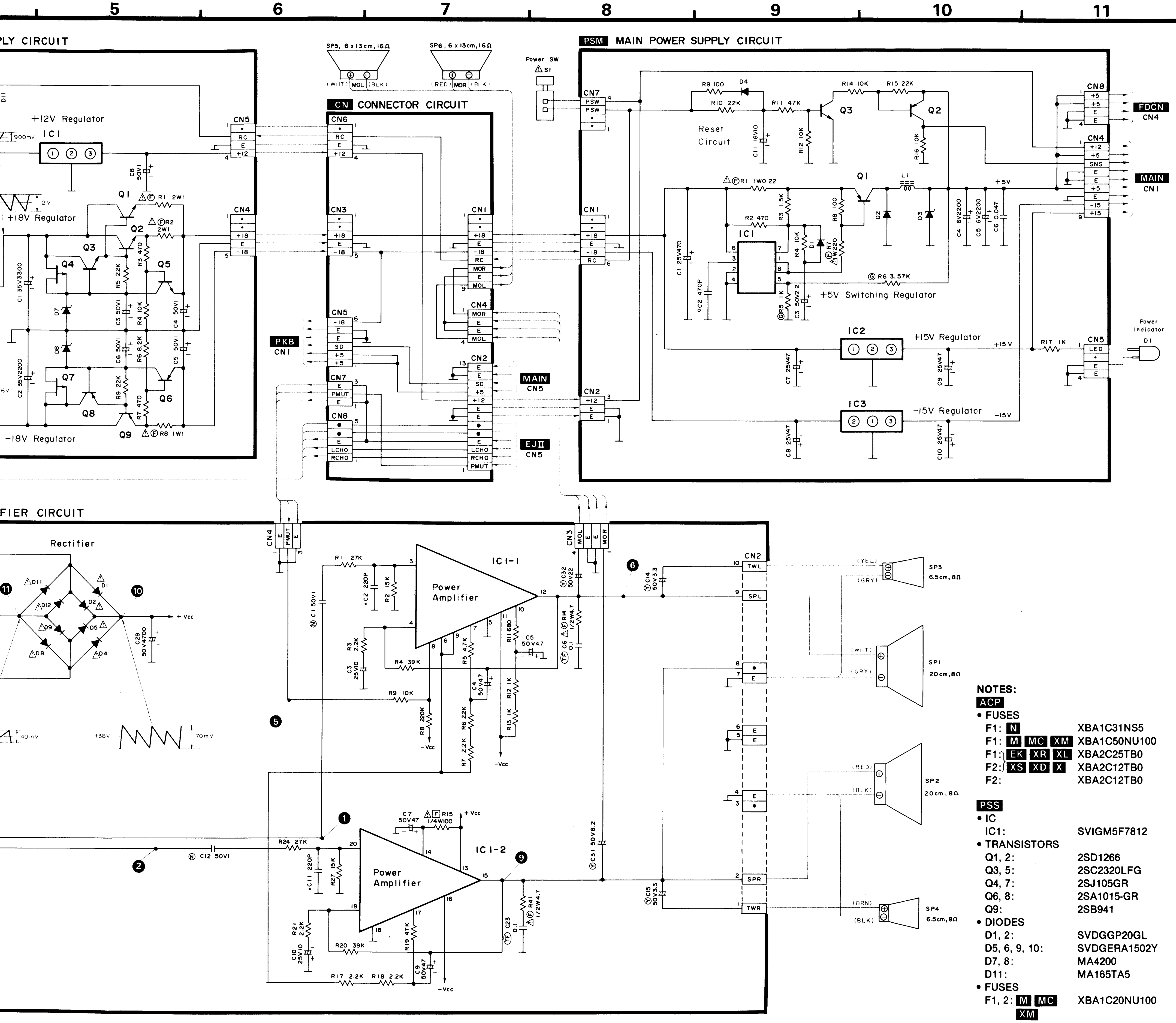
ACP

- FUSES
  - F1: **N**
  - F1: **M** **MC**
  - F1: **EK** **XR**
  - F2: **XS** **XD**
  - F2:

PSS

- IC
  - IC1:
- TRANSISTOR
  - Q1, 2:
  - Q3, 5:
  - Q4, 7:
  - Q6, 8:
  - Q9:
- DIODES
  - D1, 2:
  - D5, 6, 9, 10:
  - D7, 8:
  - D11:
- FUSES
  - F1, 2: **M** **MC** **XM**

POWER SUPPLY, SUB POWER SUPPLY, MAIN POWER SUPPLY, POWER AMPLIFIER & CONNECTOR CIRCUIT DIAGRAM

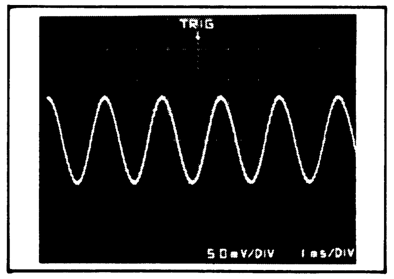


5
6
7
8
9
10
11
12
13
14
PLY CIRCUIT
+12V Regulator
IC1
+18V Regulator
-18V Regulator
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
Q9
CN5
CN4
RC
E
+12
+18
-18
SP5, 6 x 13cm, 16Ω
SP6, 6 x 13cm, 16Ω
(WHT)
MOL
(BLK)
(RED)
MOR
(BLK)
Power SW
S1
CN CONNECTOR CIRCUIT
CN6
CN3
CN1
CN4
CN5
CN2
CN7
CN8
MOR
MOL
SD
PMUT
LCHO
RCHO
PKB
CN1
MAIN
CN5
EJII
CN5
PSM MAIN POWER SUPPLY CIRCUIT
CN7
PSW
CN1
CN2
CN8
CN4
CN5
FDCN
CN4
MAIN
CN1
SNS
LED
Reset Circuit
+5V Switching Regulator
IC2
+15V Regulator
IC3
-15V Regulator
+5V
+15V
-15V
Power Indicator
D1
FIER CIRCUIT
Rectifier
+Vcc
IC1-1
Power Amplifier
IC1-2
Power Amplifier
-Vcc
+Vcc
CN2
TWL
SPL
SPR
TWR
(YEL)
(GRY)
(WHT)
(GRY)
(RED)
(BLK)
(BRN)
(BLK)
SP3 6.5cm, 8Ω
SP1 20cm, 8Ω
SP2 20cm, 8Ω
SP4 6.5cm, 8Ω
❶
❷
❺
❻
❾
⑩
⑪
+38V
40mV
70mV

■ Measuring Conditions

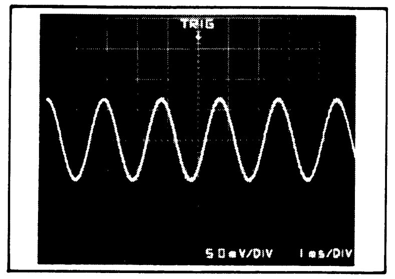
1. Set to the initial mode. (Refer to page I-3)
2. Set the all parts INITIAL TOUCH SENSE function (EFFECT MODE: Page 4) to "0". (Upper=0, Lower=0, Bass=0)
3. Change the unit setting as indicate below the pictures to confirm the waveforms.

❶



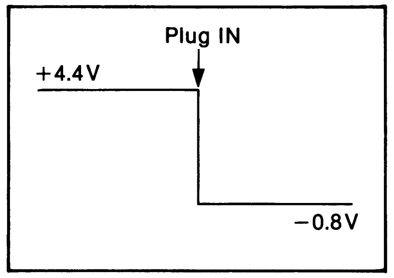
- Upper Tab & Organ............Flute 8′
- Tremolo..............................OFF
- EXP, Main Vol.....................Max
- Upper Keyboard..................C4 Key

❷



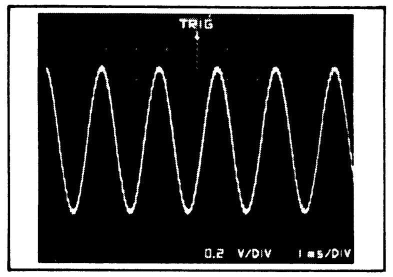
- Upper Tab & Organ............Flute 8′
- Tremolo..............................OFF
- EXP, Main Vol.....................Max
- Pedal Keyboard..................C2 Key

❺



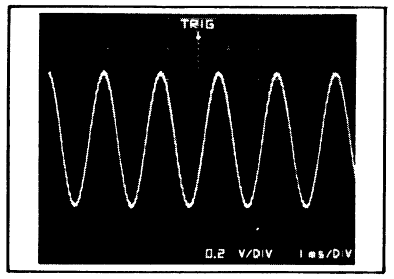
- HP Plug..............................IN

❻



- Upper Tab & Organ............Flute 8′
- Tremolo..............................OFF
- EXP, Main Vol.....................Max
- Upper Keyboard..............C4 Key

❾



- Upper Tab & Organ............Flute 8′
- Tremolo..............................OFF
- EXP, Main Vol.....................Max
- Upper Keyboard..................C4 Key

⑩, ⑪

⑩	+38V
⑪	-38V

NOTES:

ACP

- FUSES

F1: N	XBA1C31NS5
F1: M MC XM	XBA1C50NU100
F1: EK XR XL	XBA2C25TB0
F2: XS XD X	XBA2C12TB0
F2:	XBA2C12TB0

PSS

- IC

IC1:	SVIGM5F7812

- TRANSISTORS

Q1, 2:	2SD1266
Q3, 5:	2SC2320LFG
Q4, 7:	2SJ105GR
Q6, 8:	2SA1015-GR
Q9:	2SB941

- DIODES

D1, 2:	SVDGGP20GL
D5, 6, 9, 10:	SVDGERA1502Y
D7, 8:	MA4200
D11:	MA165TA5

- FUSES

F1, 2: M MC XM	XBA1C20NU100

PSM

- IC'S

IC1:	SVIGM5291P
IC2:	SVIGM5F7815
IC3:	SVIGM5F7915

- TRANSISTORS

Q1:	2SB953AQP
Q2:	2SA1015-GR
Q3:	2SC2320LFG

- DIODES

D1, 4:	MA165TA5
D2:	SVDGERC9102
D3:	MA2062LF

PA

- IC

IC1:	SVIGS4221M2M

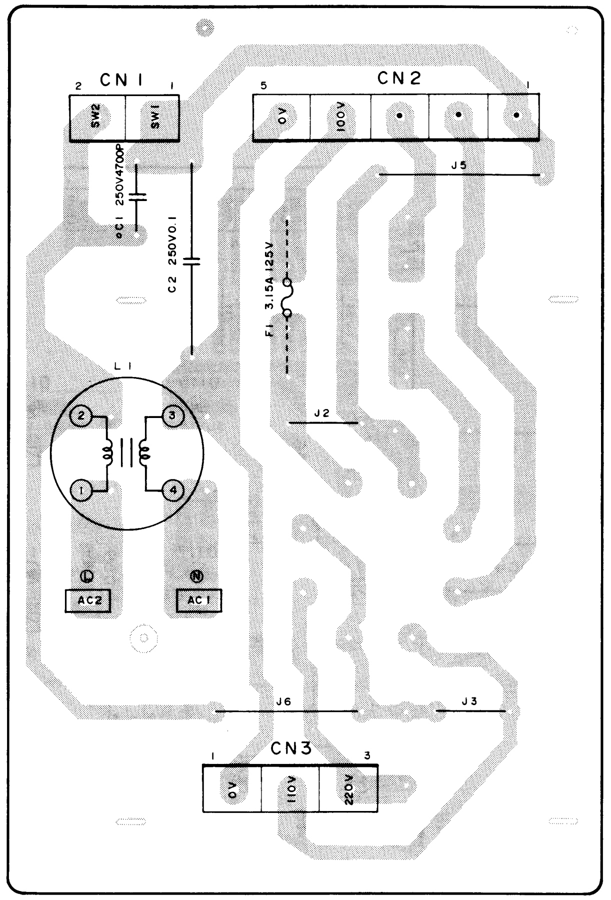
- DIODES

D1, 2, 4, 5, 8, 9, 11, 12:	SVDGS3V20-15

AC POWER SUPPLY, SUB POWER SUPPLY, MAIN POWER SUPPLY CIRCUIT BOARD

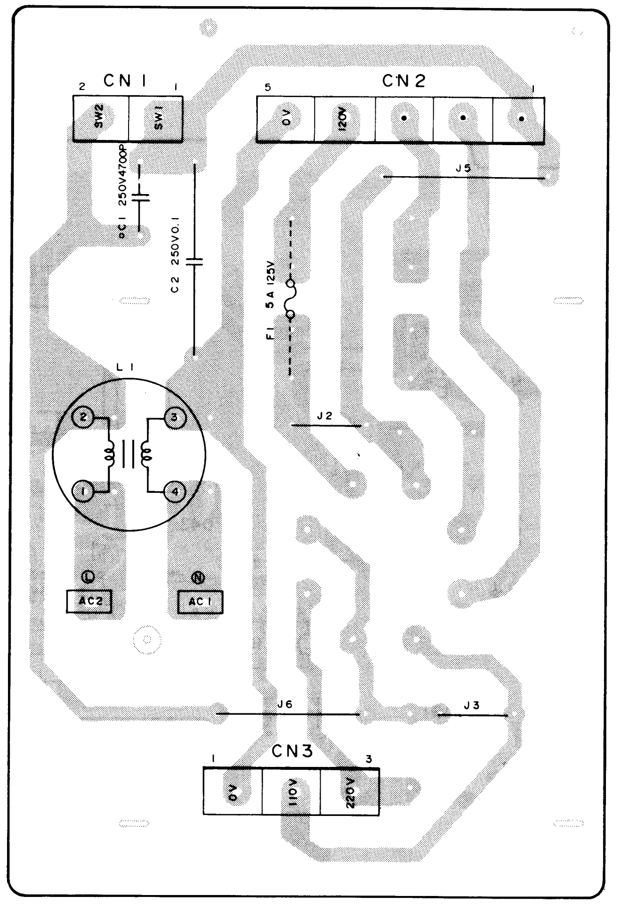
ACP AC POWER SUPPLY P.C.B.

• [N] only **SOPG202511A**


CN1
SW2
SW1
CN2
0V
100V
C1 250V4700P
C2 250V0.1
F1 3.15A 125V
J5
J2
L1
AC2
AC1
J6
J3
CN3
0V
110V
220V

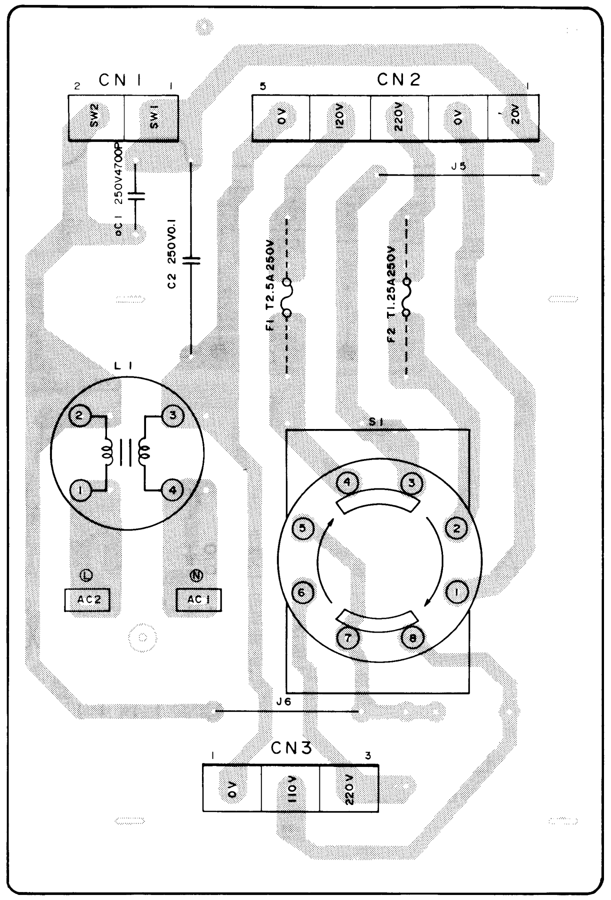
NOTE: F1: XBA1C31NS5

• [M] [MC] [XM] only **SOPG202561A**


CN1
SW2
SW1
CN2
0V
120V
C1 250V4700P
C2 250V0.1
F1 5A 125V
J5
J2
L1
AC2
AC1
J6
J3
CN3
0V
110V
220V

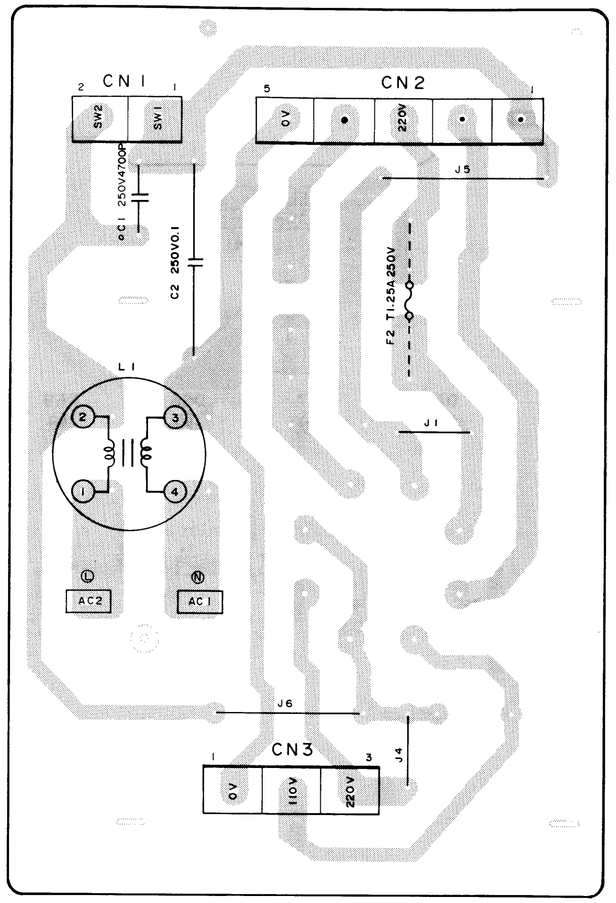
NOTE: F1: XBA1C50NU100

• [EK] [XL] [XR] [XS] [XD] [X] only **SOPG202531A**


CN1
SW2
SW1
CN2
0V
120V
220V
0V
20V
C1 250V4700P
C2 250V0.1
F1 T2.5A 250V
F2 T1.25A 250V
J5
L1
S1
AC2
AC1
J6
CN3
0V
110V
220V

NOTES: F1: XBA2C25TB0 F2: XBA2C12TB0

• Others **SOPG202521A**

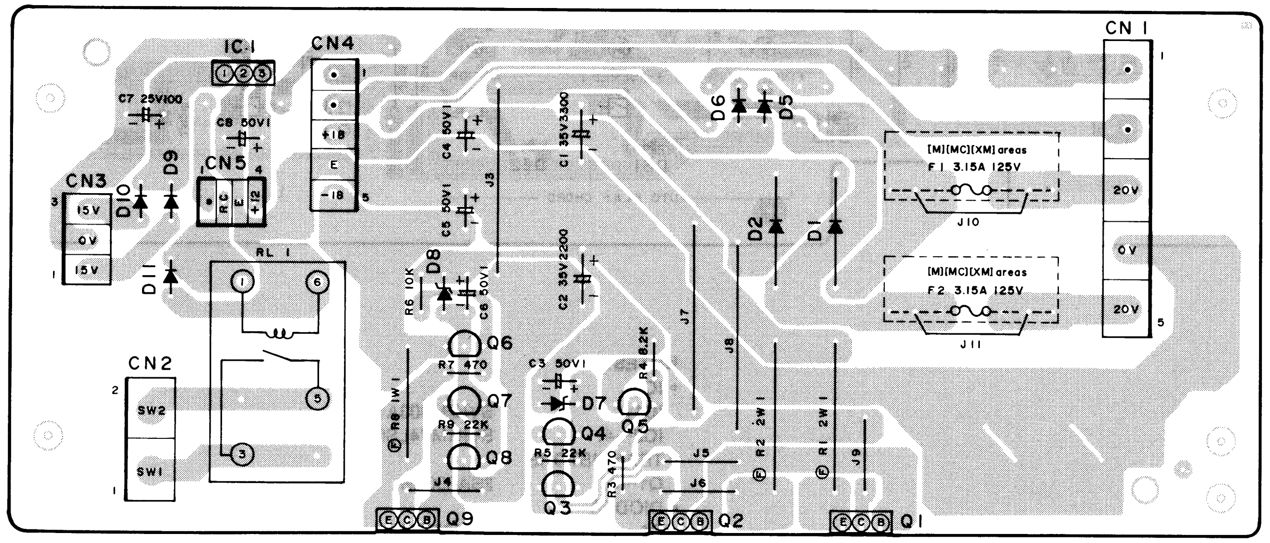

CN1
SW2
SW1
CN2
0V
220V
C1 250V4700P
C2 250V0.1
F2 T1.25A 250V
J5
J1
L1
AC2
AC1
J6
J4
CN3
0V
110V
220V

NOTE: F2: XBA2C12TB0

PSS SUB POWER SUPPLY P.C.B.

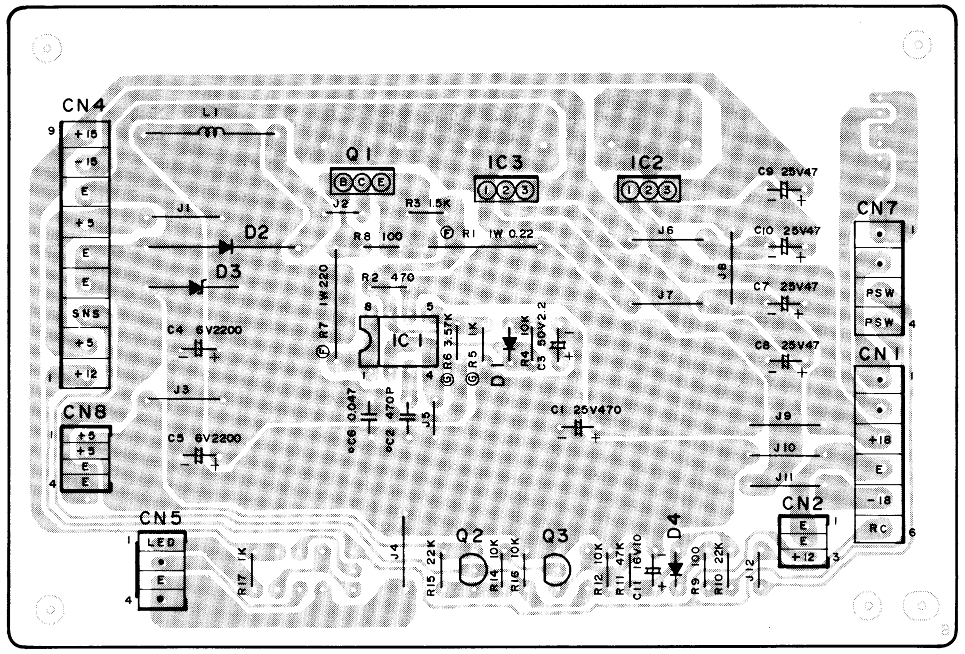
• [M] [MC] [XM] only **SXPG201521B**

• Others **SXPG201511B**


IC1
CN4
+18
E
-18
CN1
20V
0V
20V
C7 25V100
C8 50V1
CN5
RC
E
+12
CN3
15V
0V
15V
D10
D9
D11
RL1
CN2
SW2
SW1
C4 50V1
C5 50V1
C6 50V1
C1 35V3300
C2 35V2200
C3 50V1
D6
D5
D2
D1
D8
D7
R6 10K
R7 470
R9 22K
R5 22K
R4 8.2K
R3 470
R8 1W1
R2 2W1
R1 2W1
Q6
Q7
Q4
Q5
Q8
Q3
Q9
Q2
Q1
J3
J4
J5
J6
J7
J8
J9
J10
J11
[M][MC][XM] areas
F1 3.15A 125V
F2 3.15A 125V

PSM MAIN POWER SUPPLY P.C.B.

SXPG201511C


CN4
+15
-15
E
+5
E
E
SNS
+5
+12
L1
Q1
IC3
IC2
J1
D2
D3
J2
R3 15K
R8 100
R1 1W 0.22
R2 470
R7 1W220
IC1
R6 3.57K
R5 1K
R4 10K
D1
C3 50V2.2
C4 6V2200
C5 6V2200
C6 0.047
C2 470P
C1 25V470
C9 25V47
C10 25V47
C7 25V47
C8 25V47
CN7
PSW
PSW
CN1
+18
E
-18
RC
CN2
E
E
+12
CN8
+5
+5
E
E
CN5
LED
E
R17 1K
R15 22K
R14 10K
R16 10K
R12 10K
R11 47K
C11 16V10
R9 100
R10 22K
Q2
Q3
D4
J3
J4
J5
J6
J7
J8
J9
J10
J11
J12

PSS

NOTES:

- IC

IC1:	SVIGM5F7812

- FUSES

F1, 2: M MC XM	XBA1C31NU100

- TRANSISTORS

Q1, 2:	2SD1266
Q3, 5:	2SC2320LFG
Q4, 7:	2SJ105GR
Q6, 8:	2SA1015-GR
Q9:	2SB941

- DIODES

D1, 2:	SVDGGP20GL
D5, 6, 9, 10:	SVDGERA1502Y
D7, 8:	MA4200
D11:	MA165TA5

PSM

NOTES:

- IC'S

IC1:	SVIGM5291P
IC2:	SVIGM5F7815
IC3:	SVIGM5F7915

- TRANSISTORS

Q1:	2SB953AQP
Q2:	2SA1015-GR
Q3:	2SC2320LFG

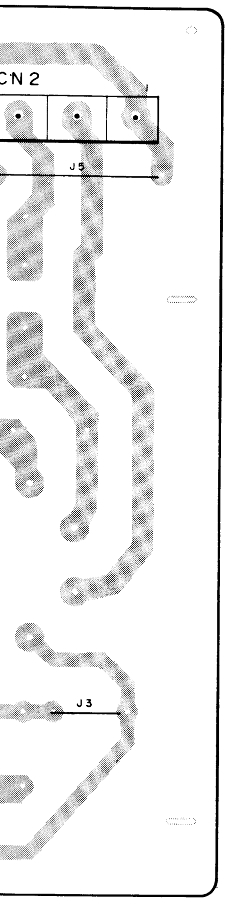
- DIODES

D1, 4:	MA165TA5
D2:	SVDGERC9102
D3:	MA2062LF

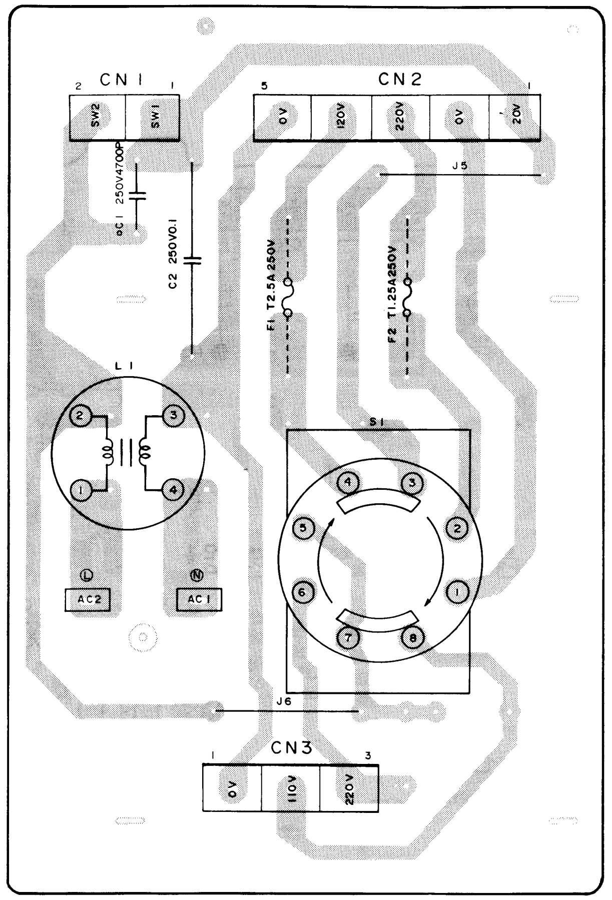
, SUB POWER SUPPLY, MAIN POWER SUPPLY CIRCUIT BOARD

5 6 7 8 9

OPG202561A

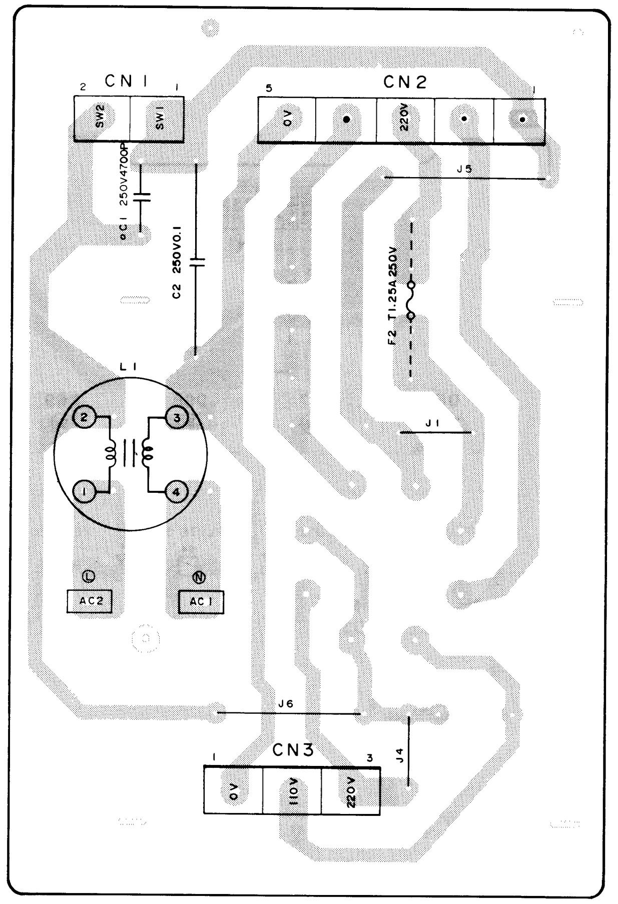


• [EK] [XL] [XR] [XS] [XD] [X] only **SOPG202531A**


CN 1
SW2
SW1
CN 2
0V
120V
220V
0V
20V
J5
C1 250V4700P
C2 250V0.1
F1 T2.5A 250V
F2 T1.25A 250V
L1
S1
AC2
AC1
J6
CN3
0V
110V
220V

NOTES: F1: XBA2C25TB0 F2: XBA2C12TB0

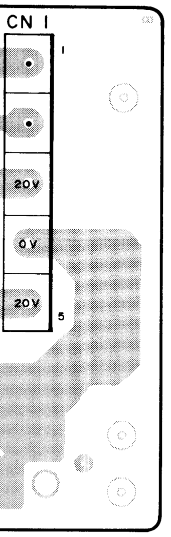
• Others **SOPG202521A**


CN 1
SW2
SW1
CN 2
0V
220V
J5
C1 250V4700P
C2 250V0.1
F2 T1.25A 250V
J1
L1
AC2
AC1
J6
CN3
0V
110V
220V
J4

NOTE: F2: XBA2C12TB0

G201521B

G201511B

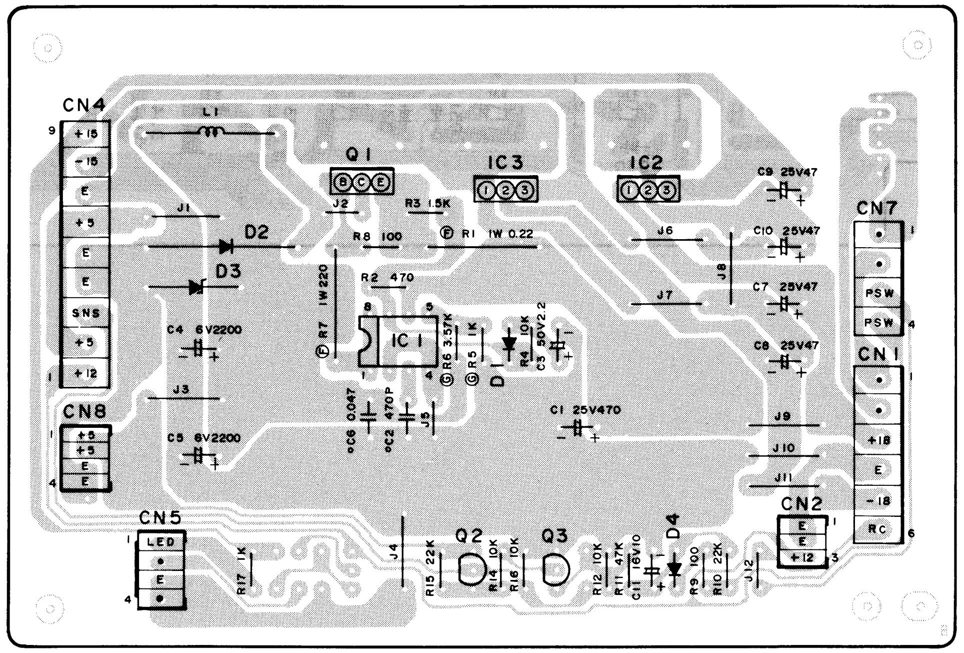

CN 1
20V
0V
20V

GL

02Y

PSM MAIN POWER SUPPLY P.C.B.

SXPG201511C


CN4
+18
-18
E
+5
E
E
SNS
+5
+12
L1
J1
D2
D3
Q1
BCE
J2
R3 15K
IC3
IC2
R8 100
R1 1W 0.22
J6
C9 25V47
C10 25V47
C7 25V47
C8 25V47
R7 1W220
R2 470
IC 1
R6 3.3K
R5 1K
R4 10K
D1
C3 50V2.2
J7
J8
C4 6V2200
J3
C6 0.047
C2 470P
J5
C1 25V470
J9
J10
J11
C5 6V2200
CN8
+5
+5
E
E
CN5
LED
E
R17 1K
J4
R15 22K
Q2
R14 10K
R16 10K
Q3
R12 10K
R11 47K
C11 16V10
D4
R9 100
R10 22K
J12
CN2
E
E
+12
CN7
PSW
PSW
CN1
+18
E
-18
RC

PSM

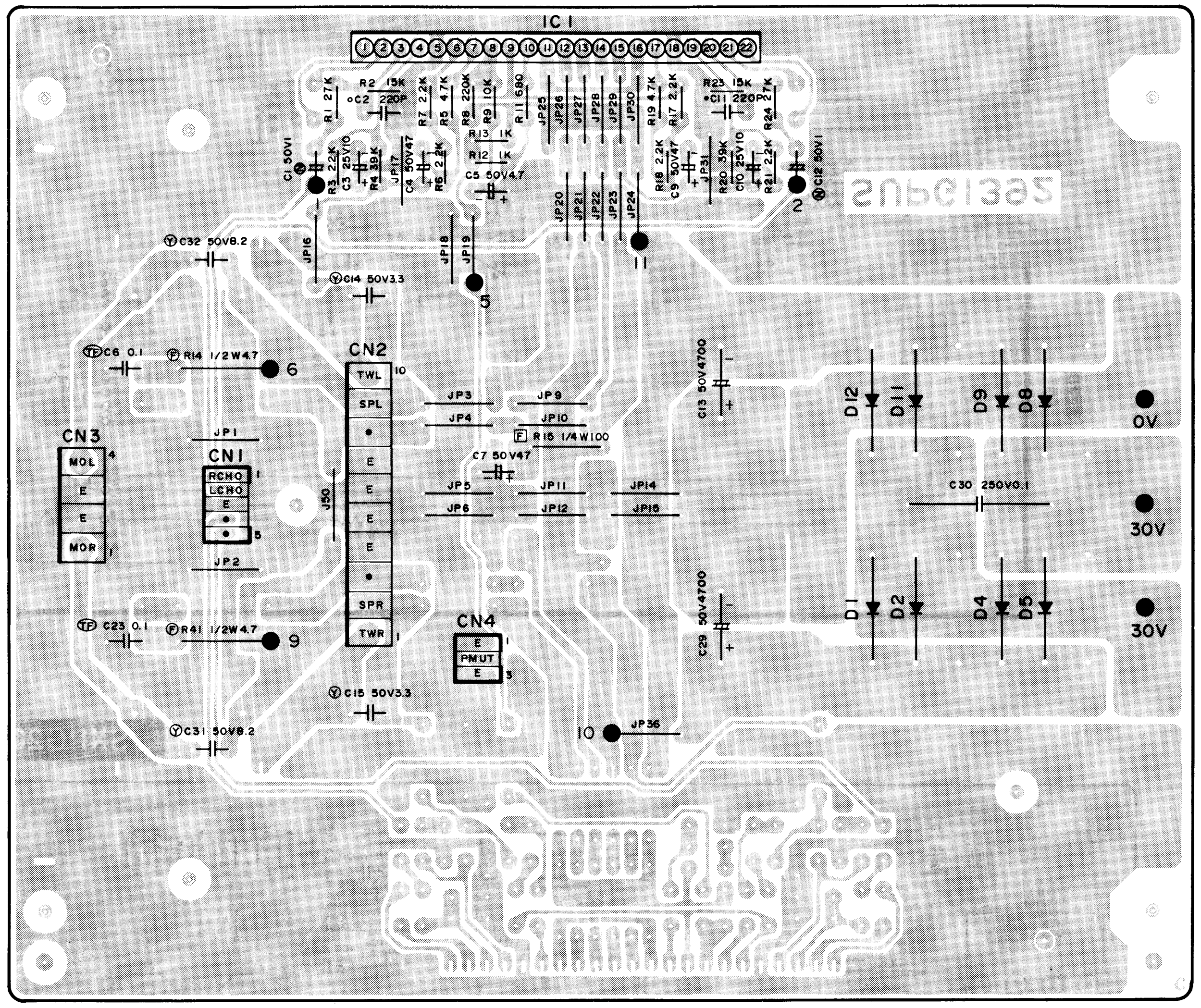
NOTES:

• IC'S	
IC1:	SVIGM5291P
IC2:	SVIGM5F7815
IC3:	SVIGM5F7915
• TRANSISTORS	
Q1:	2SB953AQP
Q2:	2SA1015-GR
Q3:	2SC2320LFG
• DIODES	
D1, 4:	MA165TA5
D2:	SVDGERC9102
D3:	MA2062LF

PA POWER AMPLIFIER CIRCUIT BOARD

1 2 3 4

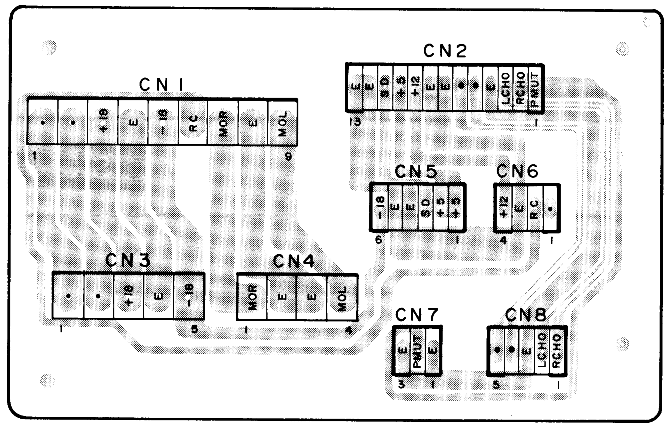
SXPG139271


IC 1
R1 27K
R2 15K
C2 220P
R3 2.2K
C3 25V10
R4 39K
JP17
C4 50V47
R5 4.7K
R6 2.2K
R7 2.2K
R8 220K
R9 10K
R11 680
R13 1K
R12 1K
C5 50V4.7
JP25
JP26
JP27
JP28
JP29
JP30
R19 4.7K
R17 2.2K
R18 2.2K
C9 50V47
JP31
R20 39K
C10 25V10
R21 2.2K
R23 15K
C11 220P
R24 27K
C12 50V1
C1 50V1
JP20
JP21
JP22
JP23
JP24
C32 50V8.2
JP16
JP18
JP19
C14 50V3.3
C6 0.1
R14 1/2W4.7
CN2
TWL
SPL
E
E
E
E
SPR
TWR
JP3
JP4
JP9
JP10
R15 1/4W100
C7 50V47
JP5
JP6
JP11
JP12
JP14
JP15
J50
CN3
MOL
E
E
MOR
JP1
CN1
RCHO
LCHO
E
JP2
C13 50V4700
C29 50V4700
D12
D11
D9
D8
D1
D2
D4
D5
C30 250V0.1
0V
30V
30V
C23 0.1
R41 1/2W4.7
CN4
E
PMUT
E
C15 50V3.3
C31 50V8.2
JP36
1
2
5
6
9
10
11

A B C D E F

CN CONNECTOR BOARD

SXPG200711B

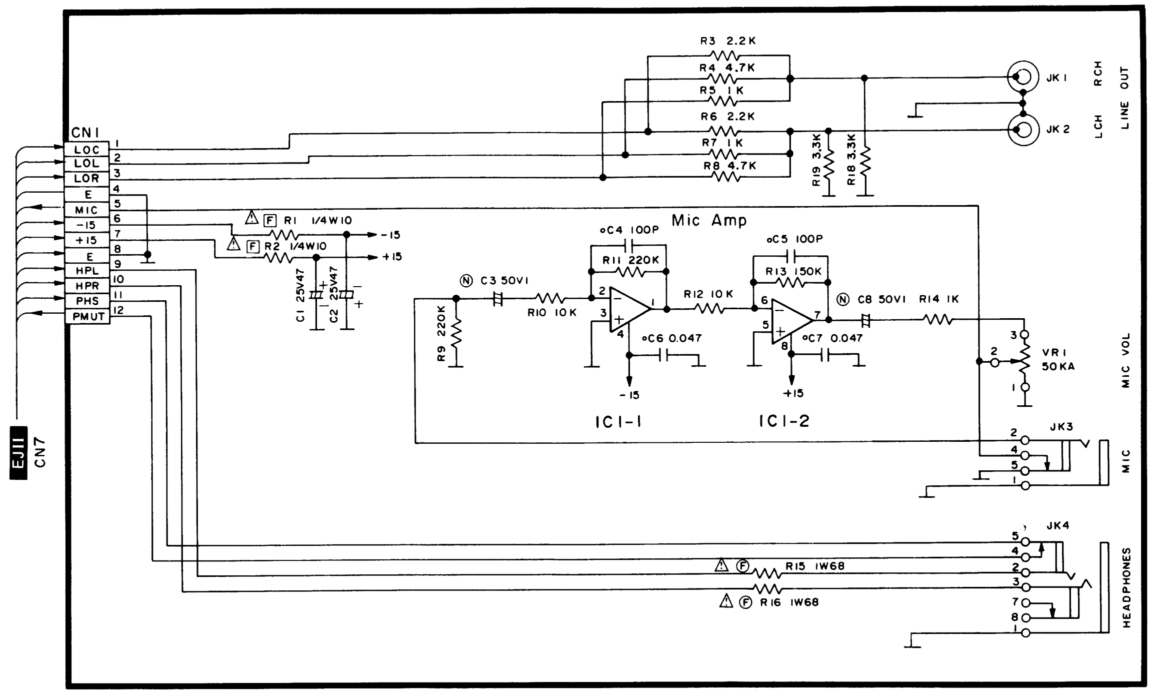

CN 1
+18
E
-18
RC
MOR
E
MOL
CN 2
E
E
SD
+5
+12
E
LCHO
RCHO
PMUT
CN5
-18
E
SD
+5
+5
CN6
+12
E
RC
CN3
+18
E
-18
CN4
MOR
E
E
MOL
CN7
E
PMUT
CN8
E
LCHO
RCHO

PA

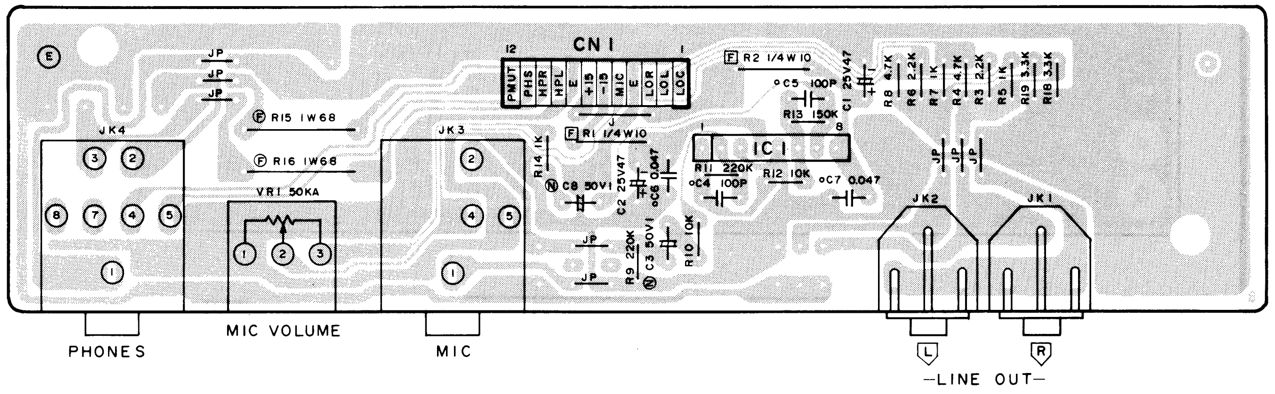
NOTES:

• IC	
IC1:	SVIGS4221M2M
• DIODES	
D1, 2, 4, 5, 8, 9, 11, 12:	SVDGS3V20-15

JACK JACK CIRCUIT DIAGRAM & CIRCUIT BOARD


CN1
LOC
LOL
LOR
E
MIC
−15
+15
E
HPL
HPR
PHS
PMUT
EJ11 CN7
R3 2.2K
R4 4.7K
R5 1K
R6 2.2K
R7 1K
R8 4.7K
R19 3.3K
R18 3.3K
JK1
JK2
RCH
LCH
LINE OUT
R1 1/4W10
R2 1/4W10
C1 25V47
C2 25V47
Mic Amp
C4 100P
R11 220K
C5 100P
R13 150K
C3 50V1
R10 10K
R9 220K
R12 10K
C8 50V1
R14 1K
C6 0.047
C7 0.047
VR1 50KA
MIC VOL
IC1-1
IC1-2
JK3
MIC
JK4
R15 1W68
R16 1W68
HEADPHONES

SXPG201411


CN1
JK4
JK3
VR1 50KA
IC1
JK2
JK1
PHONES
MIC VOLUME
MIC
L
R
—LINE OUT—

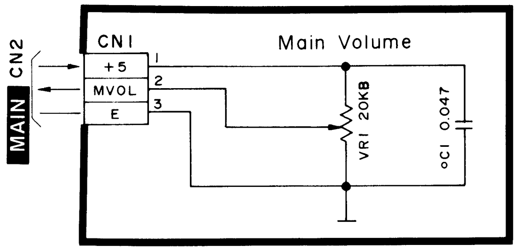
NOTES:

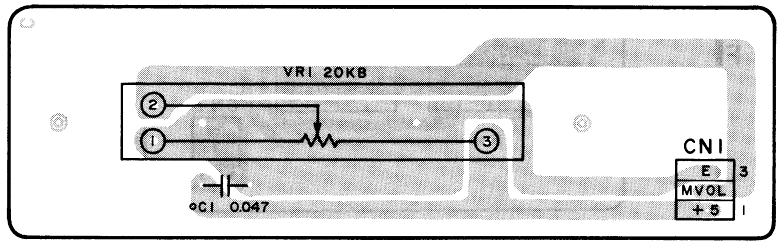
- IC

IC1: SVIGM5218L

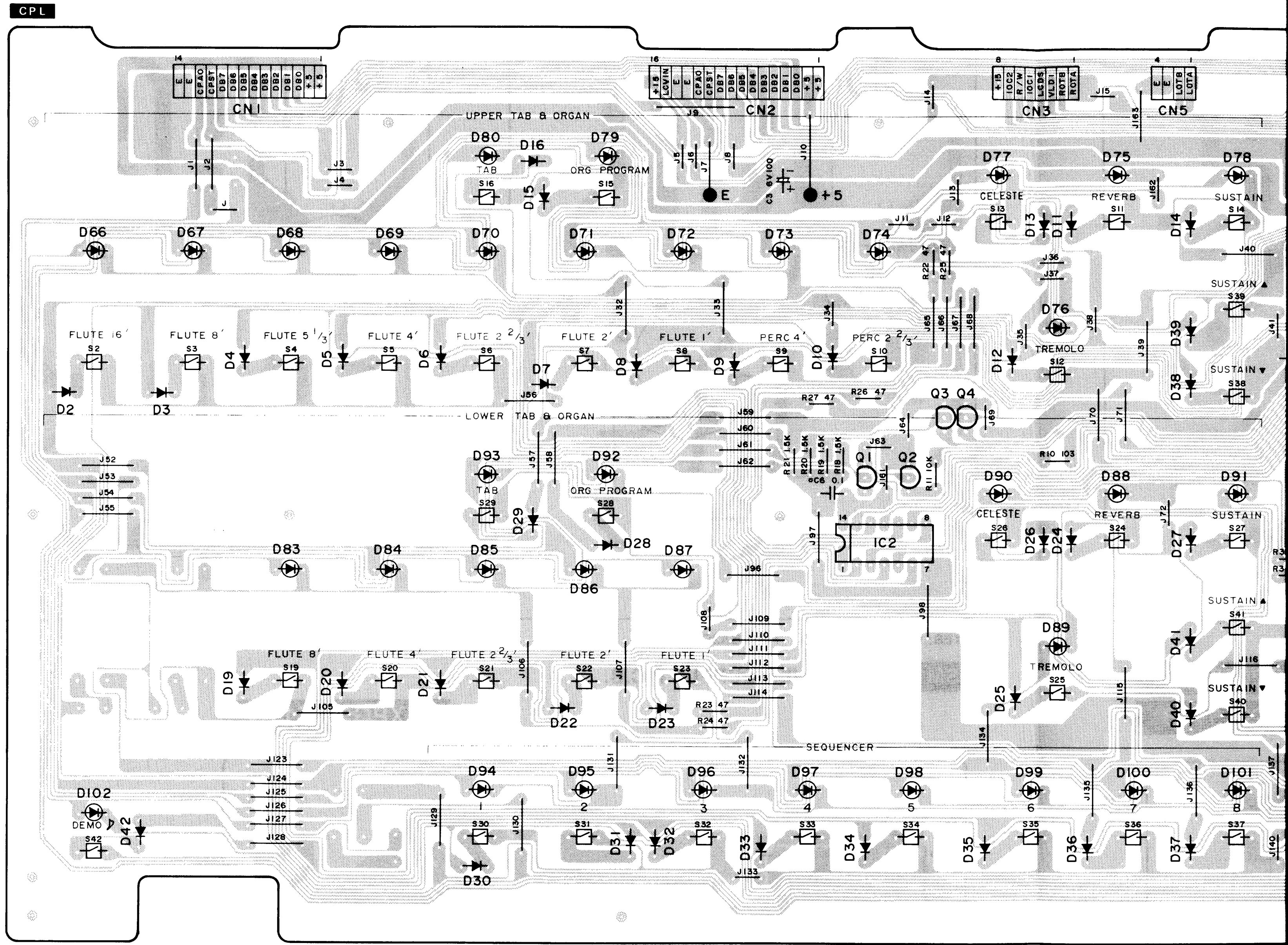
MVOL MAIN VOLUME CIRCUIT

SXPG200711E

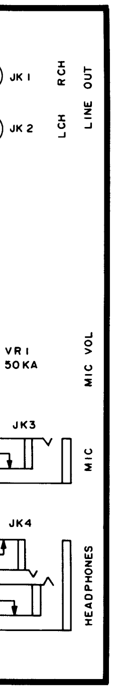

MAIN CN2
CN1
+5
MVOL
E
Main Volume
VR1 20KB
C1 0.047


VR1 20KB
C1 0.047
CN1
E
MVOL
+5

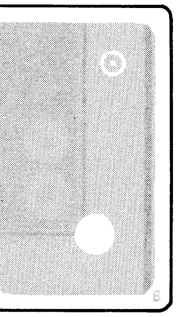
CPL ESW UPPER CONTROL PANEL LEFT, ENCODER SWITCH


CPL
CN1
CN2
CN3
CN5
UPPER TAB & ORGAN
TAB
ORG PROGRAM
CELESTE
REVERB
SUSTAIN
FLUTE 16′
FLUTE 8′
FLUTE 5 1/3′
FLUTE 4′
FLUTE 2 2/3′
FLUTE 2′
FLUTE 1′
PERC 4′
PERC 2 2/3′
TREMOLO
SUSTAIN ▲
SUSTAIN ▼
LOWER TAB & ORGAN
IC2
SEQUENCER
DEMO
E
+5

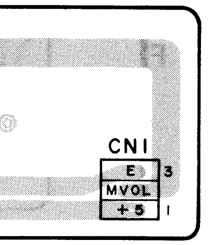
OARD


JK1
JK2
RCH
LCH
LINE OUT
VR1
50KA
MIC VOL
JK3
MIC
JK4
HEADPHONES

PG201411



PG200711E

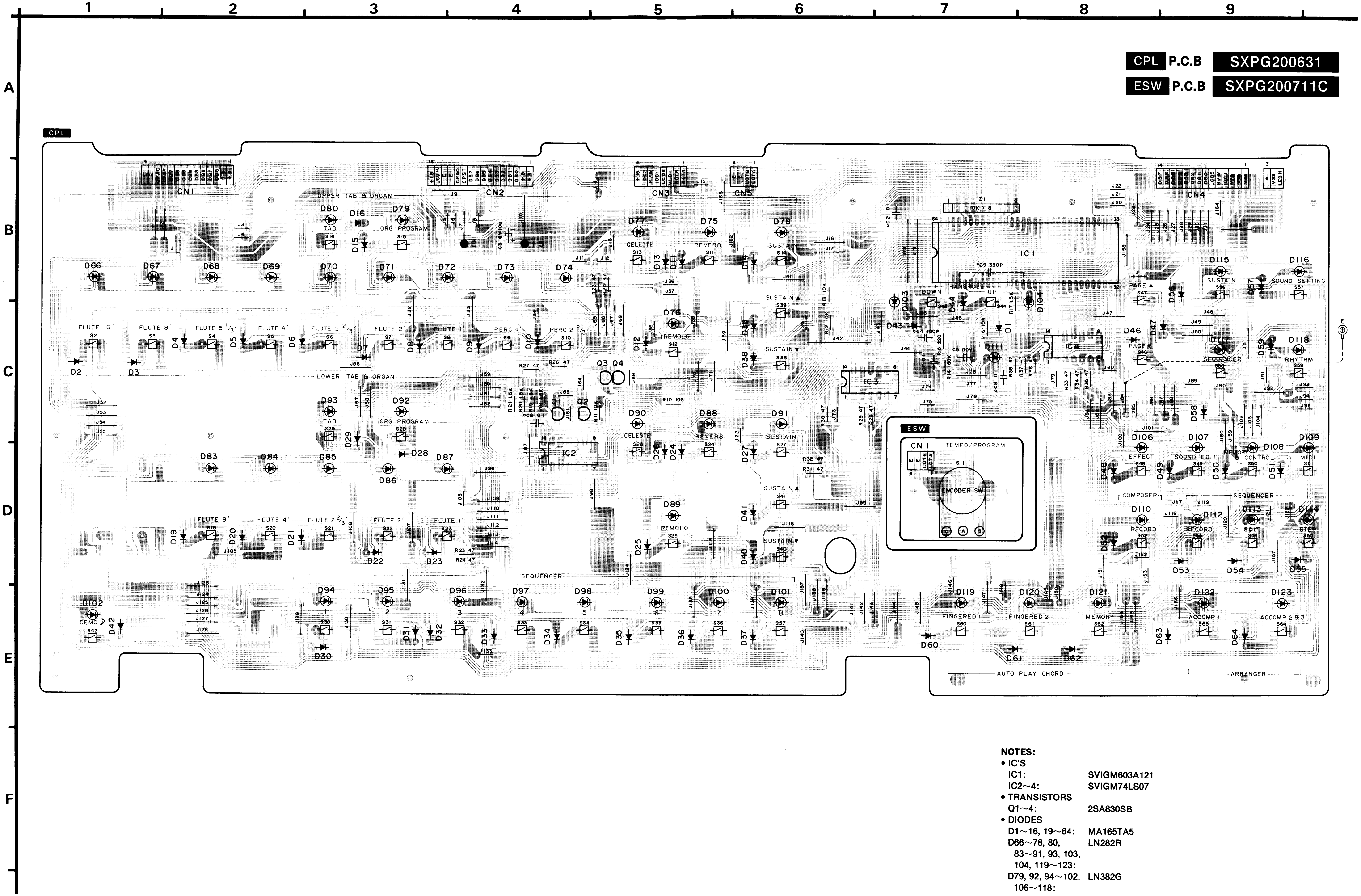

CN1
E
MVOL
+5
3
1

CPL **ESW**

UPPER CONTROL PANEL LEFT, ENCODER SWITCH CIRCUIT BOARD

CPL **P.C.B** SXPG200631

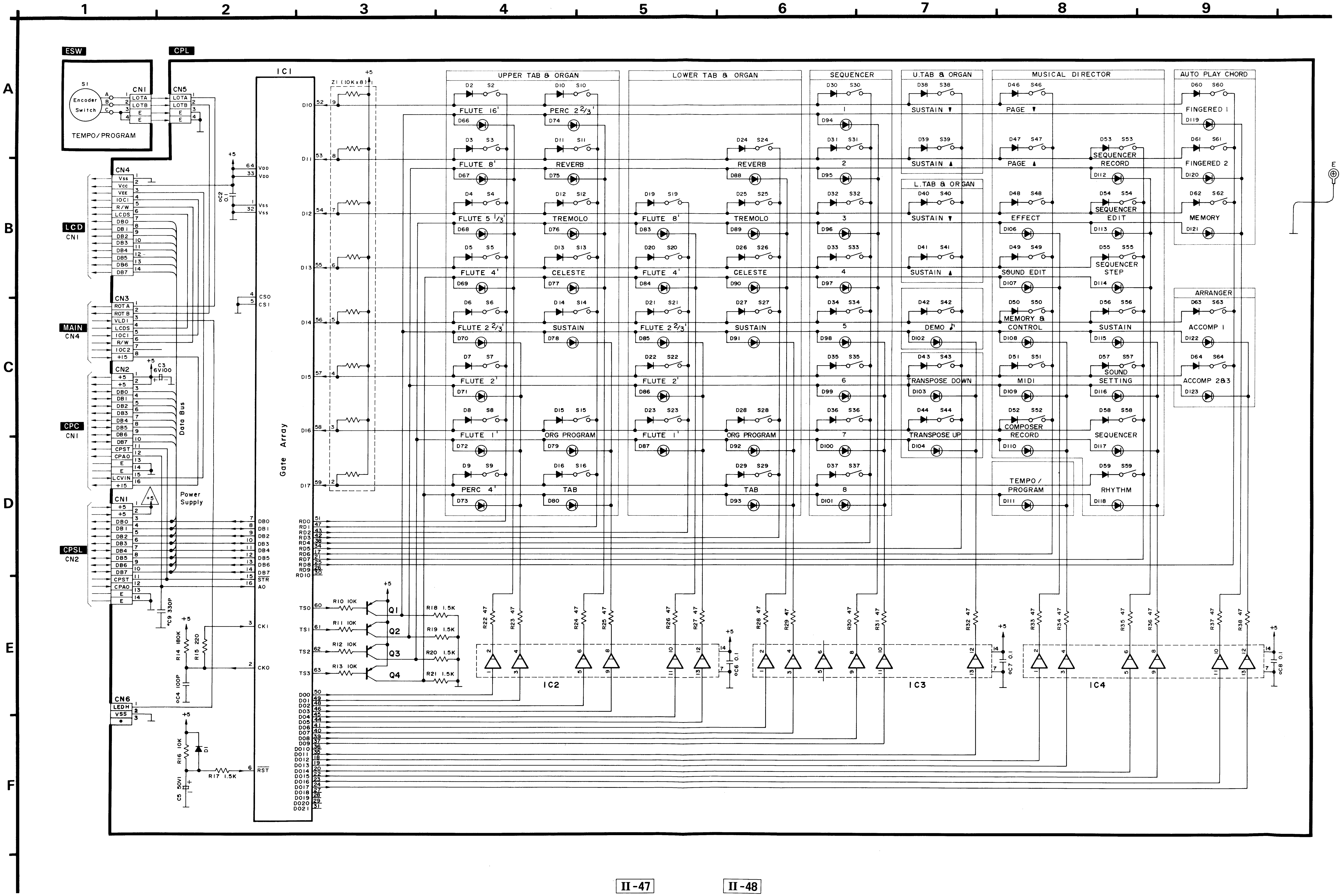
ESW **P.C.B** SXPG200711C


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
CPL
CN1
CN2
CN3
CN5
CN4
UPPER TAB & ORGAN
LOWER TAB & ORGAN
SEQUENCER
IC1
IC2
IC3
IC4
Z1 10K X 8
Q1
Q2
Q3
Q4
TAB
ORG PROGRAM
CELESTE
REVERB
SUSTAIN
SUSTAIN ▲
SUSTAIN ▼
TREMOLO
FLUTE 16'
FLUTE 8'
FLUTE 5 1/3'
FLUTE 4'
FLUTE 2 2/3'
FLUTE 2'
FLUTE 1'
PERC 4'
PERC 2 2/3'
TRANSPOSE
DOWN
UP
PAGE ▲
PAGE ▼
SOUND SETTING
SEQUENCER
RHYTHM
EFFECT
SOUND EDIT
MEMORY & CONTROL
MIDI
COMPOSER
RECORD
EDIT
STEP
DEMO
FINGERED 1
FINGERED 2
MEMORY
ACCOMP 1
ACCOMP 2 & 3
AUTO PLAY CHORD
ARRANGER
ESW
CN1
TEMPO/PROGRAM
S1
ENCODER SW
E
+5

NOTES:
- IC'S
  - IC1: SVIGM603A121
  - IC2∼4: SVIGM74LS07
- TRANSISTORS
  - Q1∼4: 2SA830SB
- DIODES
  - D1∼16, 19∼64: MA165TA5
  - D66∼78, 80, 83∼91, 93, 103, 104, 119∼123: LN282R
  - D79, 92, 94∼102, 106∼118: LN382G

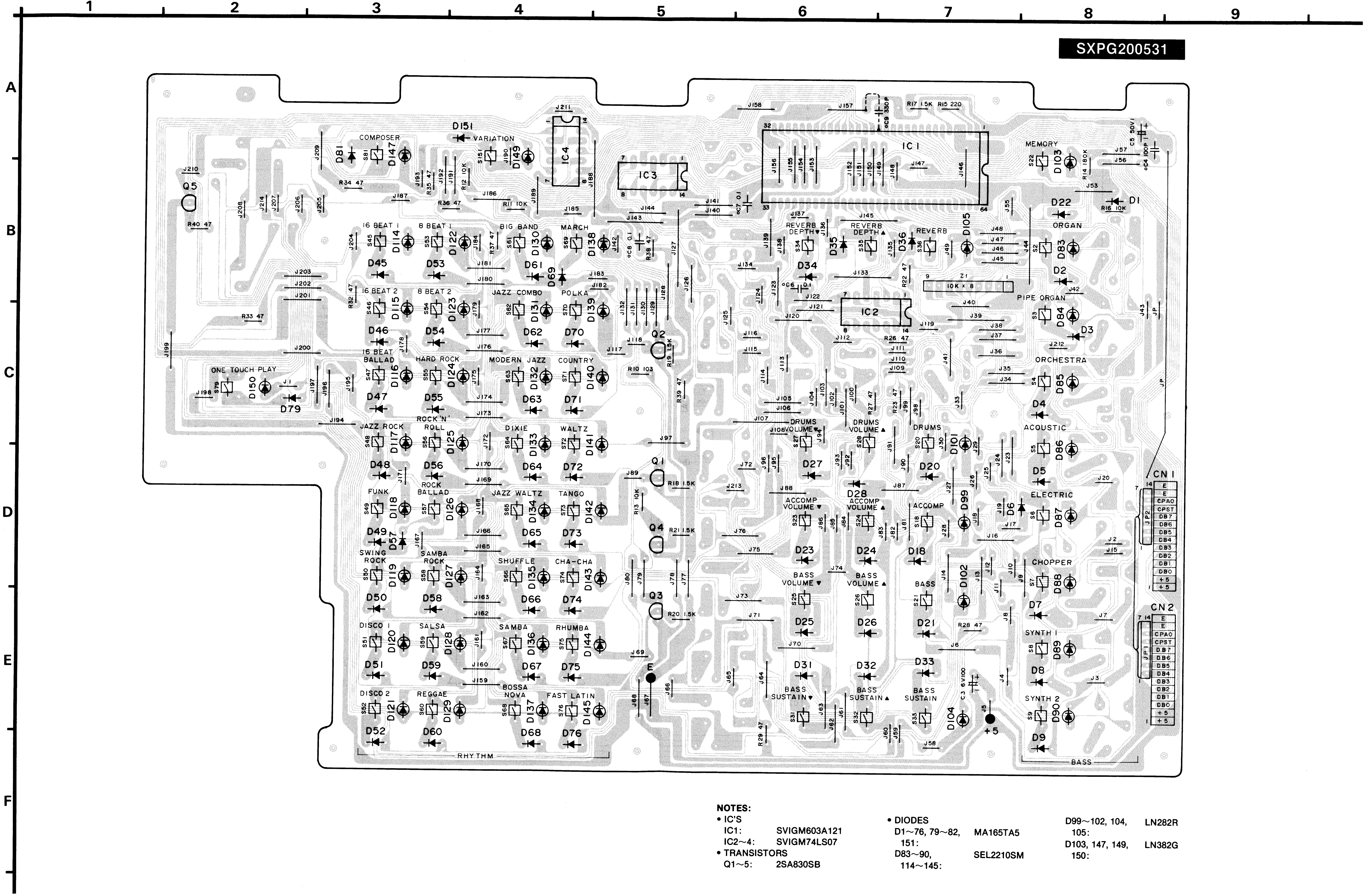
CPL **ESW**

UPPER CONTROL PANEL LEFT, ENCODER SWITCH CIRCUIT DIAGRAM


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
ESW
CPL
S1
Encoder Switch
CN1
LOTA
LOTB
E
CN5
TEMPO/PROGRAM
CN4
Vss
Vcc
VEE
IOCI
R/W
LCDS
DB0
DB1
DB2
DB3
DB4
DB5
DB6
DB7
LCD
CN1
CN3
ROT A
ROT B
VLDI
IOC2
+15
MAIN
CN4
CN2
+5
CPST
CPA0
LCVIN
CPC
CN1
Data Bus
Power Supply
CPSL
CN2
STR
A0
CN6
LEDH
VSS
IC1
Gate Array
VDD
VSS
CS0
CS1
CKI
CKO
RST
DI0
DI1
DI2
DI3
DI4
DI5
DI6
DI7
RD0
RD10
TS0
TS1
TS2
TS3
DO0
DO21
Z1 (10K x 8)
C2 0.1
C3 6V100
C9 330P
C4 100P
C5 50V1
R14 180K
R15 220
R16 10K
R17 1.5K
D1
R10 10K
R11 10K
R12 10K
R13 10K
Q1
Q2
Q3
Q4
R18 1.5K
R19 1.5K
R20 1.5K
R21 1.5K
R22 47
R23 47
R24 47
R25 47
R26 47
R27 47
R28 47
R29 47
R30 47
R31 47
R32 47
R33 47
R34 47
R35 47
R36 47
R37 47
R38 47
IC2
IC3
IC4
C6 0.1
C7 0.1
C8 0.1
UPPER TAB & ORGAN
FLUTE 16'
FLUTE 8'
FLUTE 5 1/3'
FLUTE 4'
FLUTE 2 2/3'
FLUTE 2'
FLUTE 1'
PERC 4'
PERC 2 2/3'
REVERB
TREMOLO
CELESTE
SUSTAIN
ORG PROGRAM
TAB
LOWER TAB & ORGAN
FLUTE 8'
FLUTE 4'
FLUTE 2 2/3'
FLUTE 2'
FLUTE 1'
REVERB
TREMOLO
CELESTE
SUSTAIN
ORG PROGRAM
TAB
SEQUENCER
1
2
3
4
5
6
7
8
U.TAB & ORGAN
SUSTAIN ▼
SUSTAIN ▲
L.TAB & ORGAN
SUSTAIN ▼
SUSTAIN ▲
DEMO ♪
TRANSPOSE DOWN
TRANSPOSE UP
MUSICAL DIRECTOR
PAGE ▼
PAGE ▲
EFFECT
SOUND EDIT
MEMORY & CONTROL
MIDI
COMPOSER RECORD
TEMPO / PROGRAM
SEQUENCER RECORD
SEQUENCER EDIT
SEQUENCER STEP
SUSTAIN
SOUND SETTING
SEQUENCER
RHYTHM
AUTO PLAY CHORD
FINGERED 1
FINGERED 2
MEMORY
ARRANGER
ACCOMP 1
ACCOMP 2&3
D2–D64, S2–S64
D66–D123
E

CPSL

LOWER CONTROL PANEL LEFT CIRCUIT BOARD



1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
SXPG200531
IC1
IC2
IC3
IC4
Q1
Q2
Q3
Q4
Q5
COMPOSER
VARIATION
MEMORY
16 BEAT 1
8 BEAT 1
BIG BAND
MARCH
16 BEAT 2
8 BEAT 2
JAZZ COMBO
POLKA
16 BEAT BALLAD
HARD ROCK
MODERN JAZZ
COUNTRY
ONE TOUCH PLAY
JAZZ ROCK
ROCK 'N' ROLL
DIXIE
WALTZ
FUNK
ROCK BALLAD
JAZZ WALTZ
TANGO
SWING ROCK
SAMBA ROCK
SHUFFLE
CHA-CHA
DISCO 1
SALSA
SAMBA
RHUMBA
DISCO 2
REGGAE
BOSSA NOVA
FAST LATIN
RHYTHM
REVERB DEPTH ▼
REVERB DEPTH ▲
REVERB
ORGAN
PIPE ORGAN
ORCHESTRA
ACOUSTIC
ELECTRIC
CHOPPER
SYNTH 1
SYNTH 2
BASS
DRUMS VOLUME ▼
DRUMS VOLUME ▲
DRUMS
ACCOMP VOLUME ▼
ACCOMP VOLUME ▲
ACCOMP
BASS VOLUME ▼
BASS VOLUME ▲
BASS
BASS SUSTAIN ▼
BASS SUSTAIN ▲
BASS SUSTAIN
Z1 10K × 8
CN1
CN2
E
E
CPAO
CPST
DB7
DB6
DB5
DB4
DB3
DB2
DB1
DB0
+5
+5
E
+5

NOTES:

- IC'S

IC1:	SVIGM603A121
IC2~4:	SVIGM74LS07

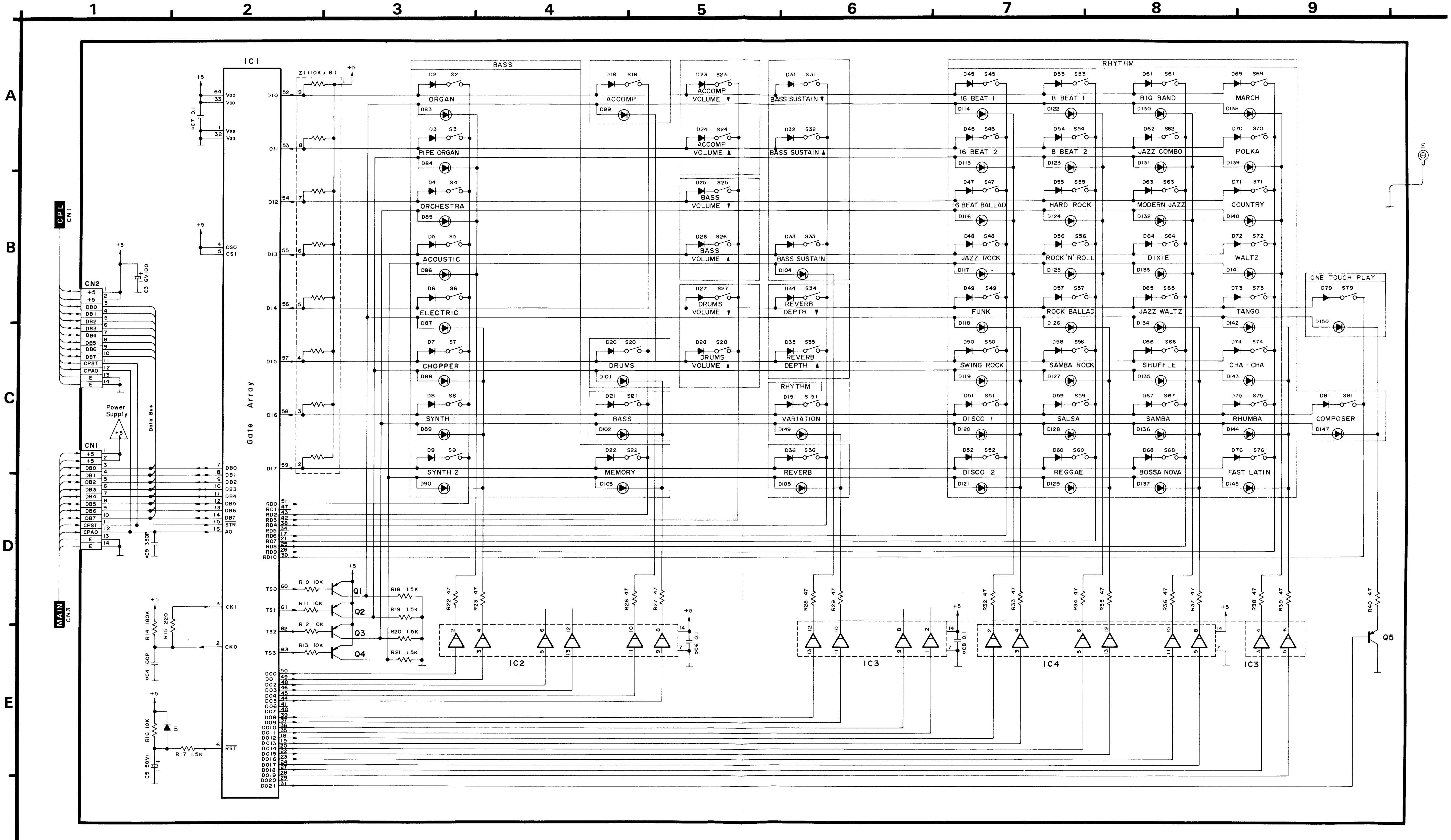
- TRANSISTORS

Q1~5:	2SA830SB

- DIODES

D1~76, 79~82, 151:	MA165TA5
D83~90, 114~145:	SEL2210SM
D99~102, 104, 105:	LN282R
D103, 147, 149, 150:	LN382G

CPSL LOWER CONTROL PANEL LEFT CIRCUIT DIAGRAM

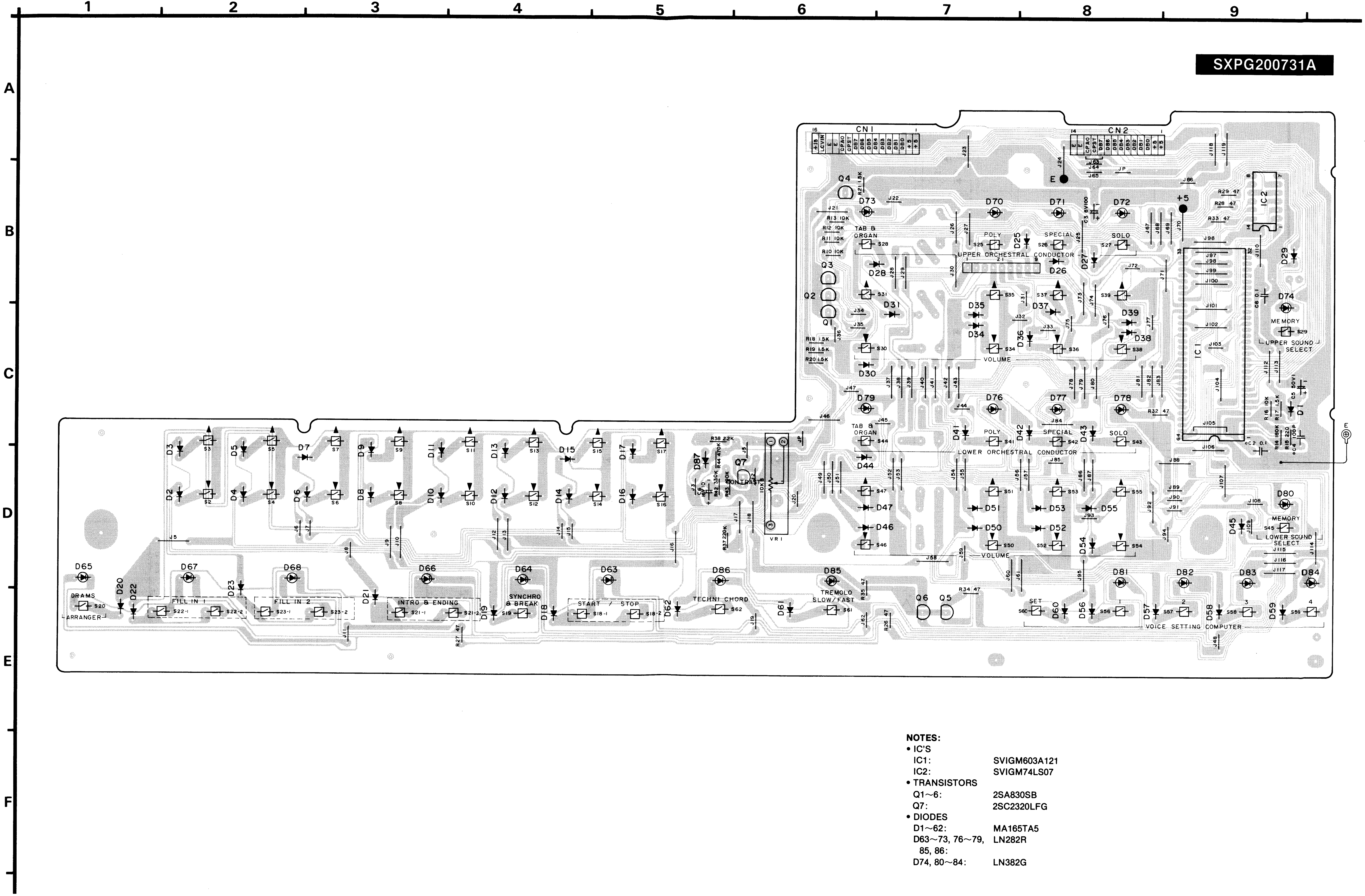

1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
CPL CN1
MAIN CN3
CN2
CN1
+5
DB0
DB1
DB2
DB3
DB4
DB5
DB6
DB7
CPST
CPA0
E
Power Supply
Data Bus
IC1
Gate Array
VDD
VSS
CS0
CS1
DI0
DI1
DI2
DI3
DI4
DI5
DI6
DI7
STR
A0
CKI
CKO
RST
RD0
RD1
RD2
RD3
RD4
RD5
RD6
RD7
RD8
RD9
RD10
TS0
TS1
TS2
TS3
DO0
DO21
Z1 (10K x 8)
C7 0.1
C3 6V100
C9 330P
R14 180K
R15 220
C4 100P
R16 10K
D1
R17 1.5K
C5 50V1
R10 10K
R11 10K
R12 10K
R13 10K
Q1
Q2
Q3
Q4
Q5
R18 1.5K
R19 1.5K
R20 1.5K
R21 1.5K
BASS
ORGAN
PIPE ORGAN
ORCHESTRA
ACOUSTIC
ELECTRIC
CHOPPER
SYNTH 1
SYNTH 2
ACCOMP
ACCOMP VOLUME ▼
ACCOMP VOLUME ▲
BASS VOLUME ▼
BASS VOLUME ▲
DRUMS VOLUME ▼
DRUMS VOLUME ▲
DRUMS
BASS
MEMORY
BASS SUSTAIN ▼
BASS SUSTAIN ▲
BASS SUSTAIN
REVERB DEPTH ▼
REVERB DEPTH ▲
RHYTHM
VARIATION
REVERB
RHYTHM
16 BEAT 1
16 BEAT 2
16 BEAT BALLAD
JAZZ ROCK
FUNK
SWING ROCK
DISCO 1
DISCO 2
8 BEAT 1
8 BEAT 2
HARD ROCK
ROCK 'N' ROLL
ROCK BALLAD
SAMBA ROCK
SALSA
REGGAE
BIG BAND
JAZZ COMBO
MODERN JAZZ
DIXIE
JAZZ WALTZ
SHUFFLE
SAMBA
BOSSA NOVA
MARCH
POLKA
COUNTRY
WALTZ
TANGO
CHA-CHA
RHUMBA
FAST LATIN
ONE TOUCH PLAY
COMPOSER
IC2
IC3
IC4
C6 0.1
C8 0.1
R22 47
R23 47
R26 47
R27 47
R28 47
R29 47
R32 47
R33 47
R34 47
R35 47
R36 47
R37 47
R38 47
R39 47
R40 47
E

NOTES:

- IC'S
  - IC1: SVIGM603A121
  - IC2~4: SVIGM74LS07
- TRANSISTORS
  - Q1~5: 2SA830SB
- DIODES
  - D1~76, 79~82, 151: MA165TA5
  - D83~90, 114~145: SEL2210SM
  - D99~102, 104, 105: LN282R
  - D103, 147, 149, 150: LN382G

CPC

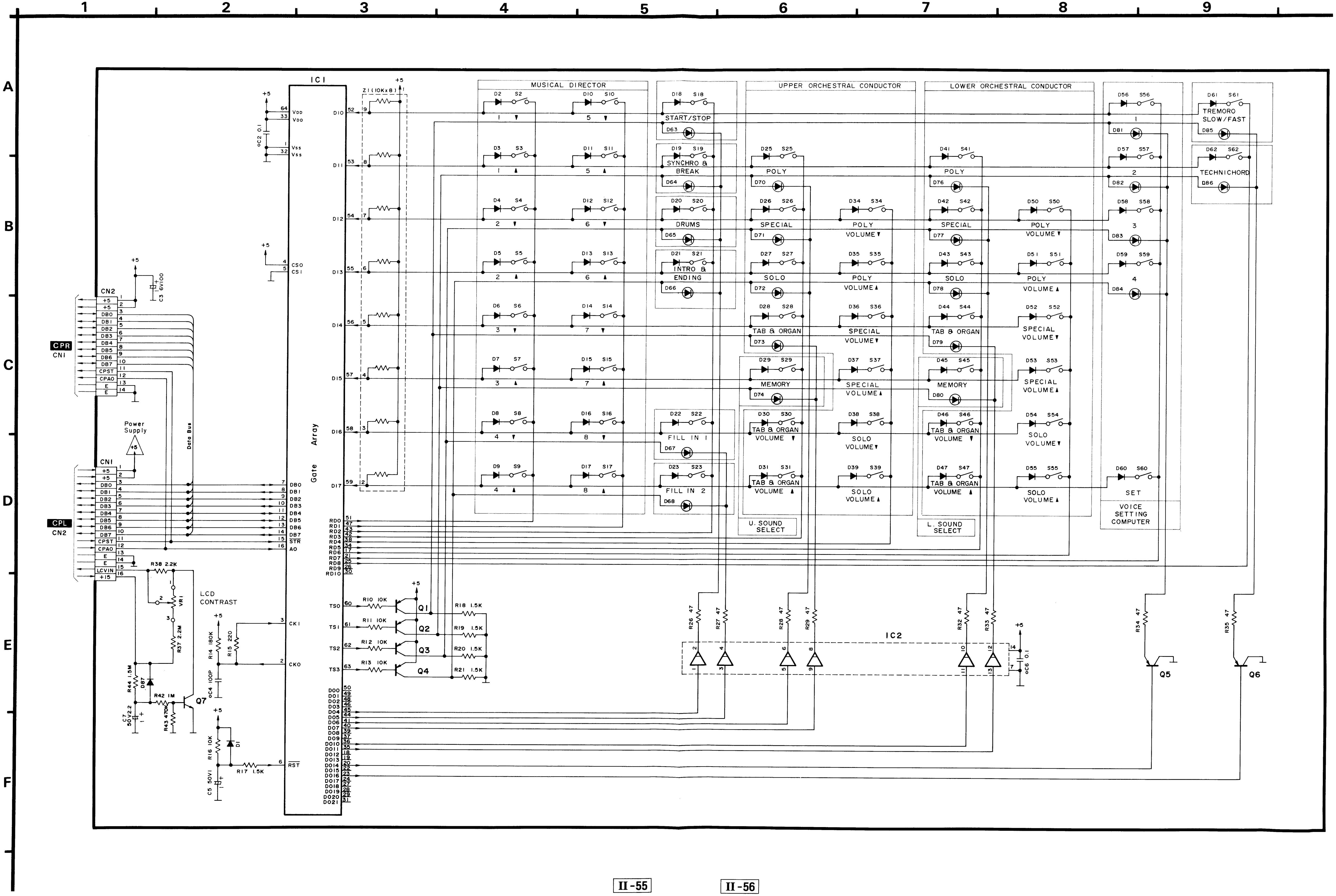
UPPER CONTROL PANEL CENTER CIRCUIT BOARD


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
SXPG200731A
CN1
CN2
E
+5
IC1
IC2
Q1
Q2
Q3
Q4
Q5
Q6
Q7
VR1
CONTRAST
TAB & ORGAN
POLY
SPECIAL
SOLO
UPPER ORCHESTRAL CONDUCTOR
VOLUME
MEMORY
UPPER SOUND SELECT
LOWER ORCHESTRAL CONDUCTOR
LOWER SOUND SELECT
DRAMS
ARRANGER
FILL IN 1
FILL IN 2
INTRO & ENDING
SYNCHRO & BREAK
START / STOP
TECHNI CHORD
TREMOLO SLOW/FAST
SET
VOICE SETTING COMPUTER

NOTES:

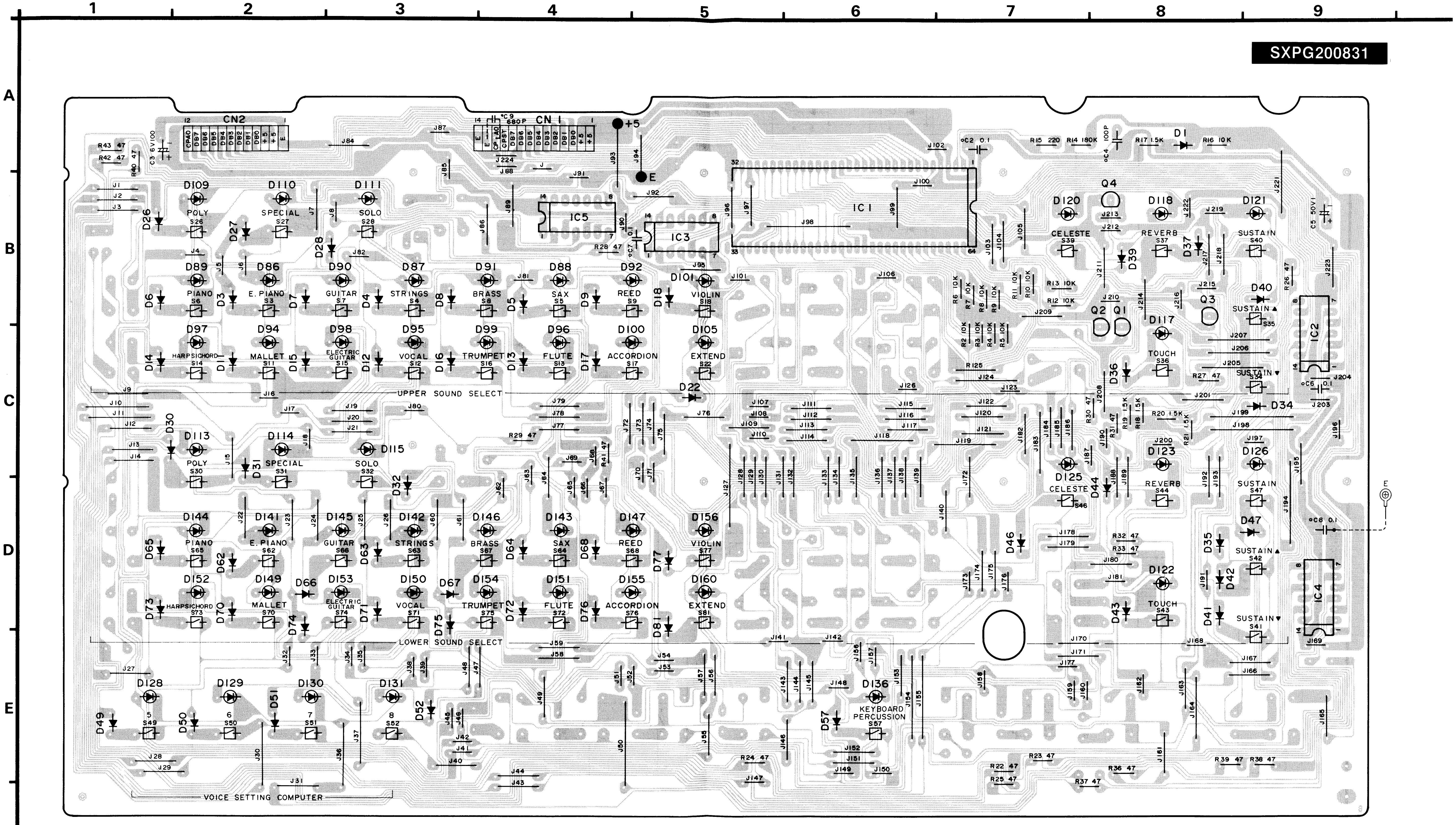
- IC'S
  - IC1: SVIGM603A121
  - IC2: SVIGM74LS07
- TRANSISTORS
  - Q1~6: 2SA830SB
  - Q7: 2SC2320LFG
- DIODES
  - D1~62: MA165TA5
  - D63~73, 76~79, 85, 86: LN282R
  - D74, 80~84: LN382G

CPC UPPER CONTROL PANEL CENTER CIRCUIT DIAGRAM


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
IC1
Gate Array
Z1 (10K×8)
MUSICAL DIRECTOR
UPPER ORCHESTRAL CONDUCTOR
LOWER ORCHESTRAL CONDUCTOR
START/STOP
SYNCHRO & BREAK
DRUMS
INTRO & ENDING
FILL IN 1
FILL IN 2
POLY
SPECIAL
SOLO
TAB & ORGAN
MEMORY
TAB & ORGAN VOLUME ▼
TAB & ORGAN VOLUME ▲
POLY VOLUME ▼
POLY VOLUME ▲
SPECIAL VOLUME ▼
SPECIAL VOLUME ▲
SOLO VOLUME ▼
SOLO VOLUME ▲
U. SOUND SELECT
L. SOUND SELECT
TREMORO SLOW/FAST
TECHNICHORD
SET
VOICE SETTING COMPUTER
CPR CN1
CPL CN2
CN1
CN2
Power Supply
Data Bus
LCD CONTRAST
VR1
IC2
Q1
Q2
Q3
Q4
Q5
Q6
Q7
R10 10K
R11 10K
R12 10K
R13 10K
R18 1.5K
R19 1.5K
R20 1.5K
R21 1.5K
R14 180K
R15 220
R16 10K
R17 1.5K
R26 47
R27 47
R28 47
R29 47
R32 47
R33 47
R34 47
R35 47
R37 2.2M
R38 2.2K
R42 1M
R43 470K
R44 1.5M
C2 0.1
C3 6V100
C4 100P
C5 50V1
C6 0.1
C7 50V2.2
D1
D87
+5
+15
VDD
VSS
CS0
CS1
CK1
CK0
RST
DB0
DB1
DB2
DB3
DB4
DB5
DB6
DB7
STR
A0
CPST
CPA0
LCVIN
E
DI0
DI1
DI2
DI3
DI4
DI5
DI6
DI7
RD0
RD1
RD2
RD3
RD4
RD5
RD6
RD7
RD8
RD9
RD10
TS0
TS1
TS2
TS3
DO0
DO1
DO2
DO3
DO4
DO5
DO6
DO7
DO8
DO9
DO10
DO11
DO12
DO13
DO14
DO15
DO16
DO17
DO18
DO19
DO20
DO21

CPR

UPPER CONTROL PANEL RIGHT CIRCUIT BOARD


1
2
3
4
5
6
7
8
9
A
B
C
D
E
SXPG200831
CN2
CN1
+5
E
IC1
IC2
IC3
IC4
IC5
Q1
Q2
Q3
Q4
D109 POLY S26
D110 SPECIAL S27
D111 SOLO S28
D89 PIANO S6
D86 E.PIANO S3
D90 GUITAR S7
D87 STRINGS S4
D91 BRASS S8
D88 SAX S5
D92 REED S9
D101 VIOLIN S18
D97 HARPSICHORD S14
D94 MALLET S11
D98 ELECTRIC GUITAR S15
D95 VOCAL S12
D99 TRUMPET S16
D96 FLUTE S13
D100 ACCORDION S17
D105 EXTEND S22
UPPER SOUND SELECT
D120 CELESTE S39
D118 REVERB S37
D121 SUSTAIN S40
D40 SUSTAIN▲ S35
D117 TOUCH S36
SUSTAIN▼ S34
D34
D113 POLY S30
D114 SPECIAL S31
D115 SOLO S32
D144 PIANO S65
D141 E.PIANO S62
D145 GUITAR S66
D142 STRINGS S63
D146 BRASS S67
D143 SAX S64
D147 REED S68
D156 VIOLIN S77
D152 HARPSICHORD S73
D149 MALLET S70
D153 ELECTRIC GUITAR S74
D150 VOCAL S71
D154 TRUMPET S75
D151 FLUTE S72
D155 ACCORDION S76
D160 EXTEND S81
LOWER SOUND SELECT
D125 CELESTE S46
D123 REVERB S44
D126 SUSTAIN S47
D47 SUSTAIN▲ S42
D122 TOUCH S43
SUSTAIN▼ S41
D128 5 S49
D129 6 S50
D130 7 S51
D131 8 S52
D136 KEYBOARD PERCUSSION S57
VOICE SETTING COMPUTER

NOTES:
- IC'S

IC1:	SVIGM603A121
IC2~5:	SVIGM74LS07

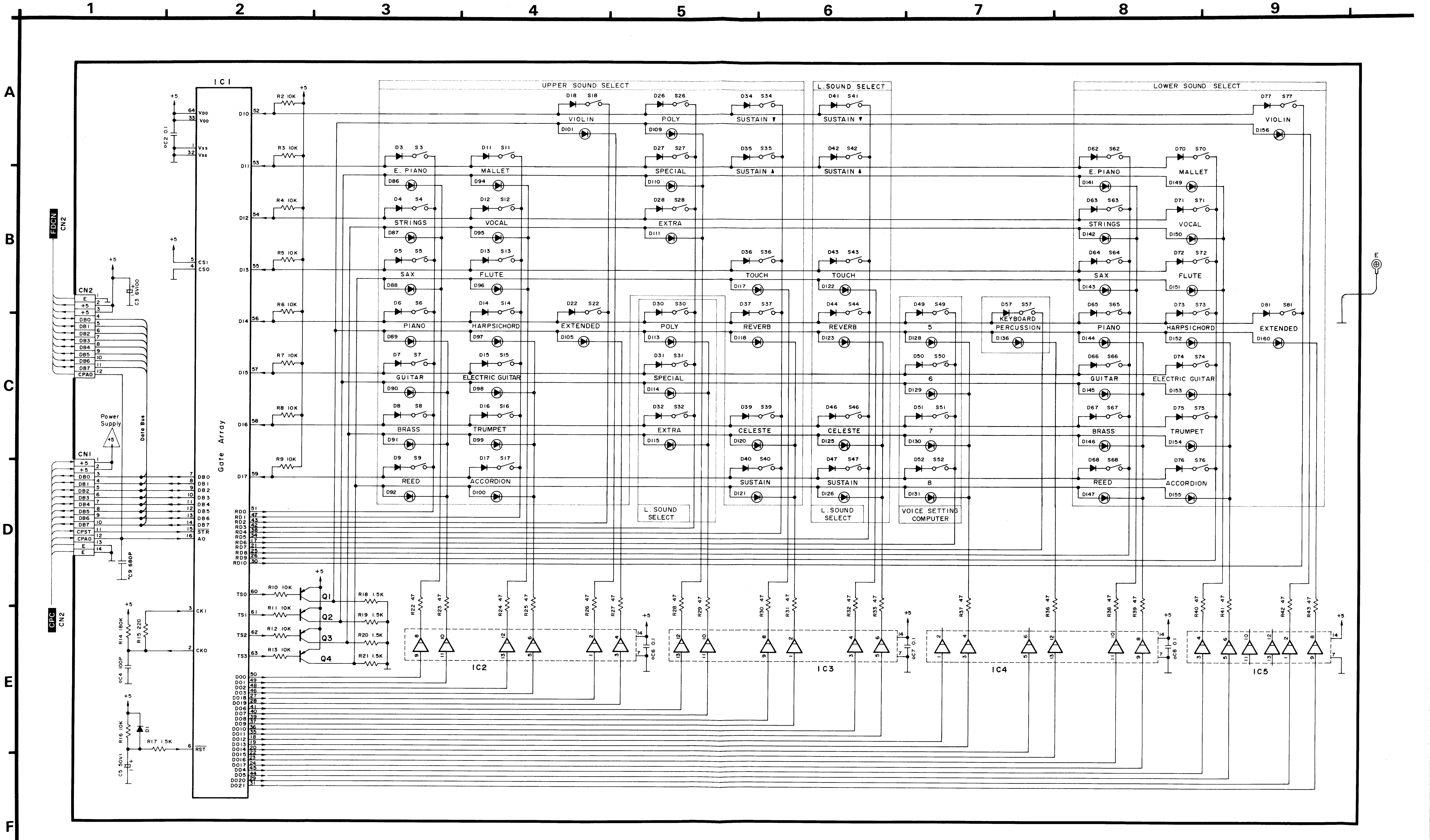
- TRANSISTORS

Q1~4:	2SA830SB

- DIODES

D1~81:	MA165TA5
D86~107, 141~162:	SEL2210SM
D109~126, 136:	LN282R
D128~135:	LN382G

CPR UPPER CONTROL PANEL RIGHT CIRCUIT DIAGRAM


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
FDCN CN2
CPC CN2
CN2
CN1
Power Supply
Data Bus
IC1
Gate Array
VDD
VSS
CS1
CS0
CK1
CK0
RST
STR
A0
R2 10K
R3 10K
R4 10K
R5 10K
R6 10K
R7 10K
R8 10K
R9 10K
R10 10K
R11 10K
R12 10K
R13 10K
R14 180K
R15 220
R16 10K
R17 1.5K
R18 1.5K
R19 1.5K
R20 1.5K
R21 1.5K
C2 0.1
C3 6V100
C4 100P
C5 50V1
C9 680P
D1
Q1
Q2
Q3
Q4
TS0
TS1
TS2
TS3
UPPER SOUND SELECT
L.SOUND SELECT
LOWER SOUND SELECT
VIOLIN
POLY
SUSTAIN ▼
SUSTAIN ▲
E. PIANO
MALLET
SPECIAL
STRINGS
VOCAL
EXTRA
SAX
FLUTE
TOUCH
PIANO
HARPSICHORD
EXTENDED
REVERB
KEYBOARD PERCUSSION
GUITAR
ELECTRIC GUITAR
BRASS
TRUMPET
CELESTE
REED
ACCORDION
5
6
7
8
L. SOUND SELECT
VOICE SETTING COMPUTER
IC2
IC3
IC4
IC5
C6 0.1
C7 0.1
C8 0.1
E

NOTES:

- IC'S

IC1:	SVIGM603A121
IC2~5:	SVIGM74LS07

- TRANSISTORS

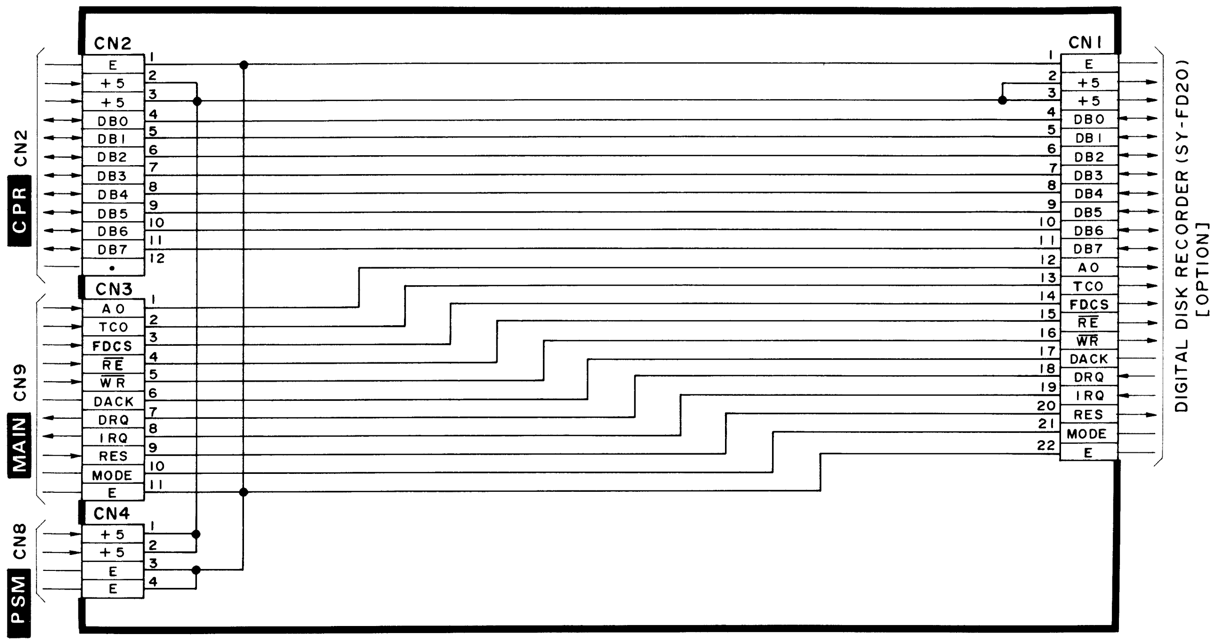
Q1~4:	2SA830SB

- DIODES

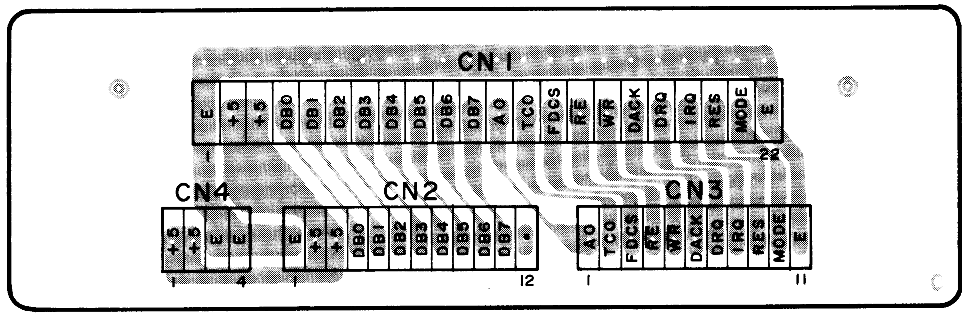
D1~81:	MA165TA5
D86~107, 141~162:	SEL2210SM
D109~126, 136	LN282R
D128~135:	LN382G

FDCN

FD CONNECTOR CIRCUIT


CN2
E
+5
+5
DB0
DB1
DB2
DB3
DB4
DB5
DB6
DB7
•
CN2
CPR
CN3
A0
TCO
FDCS
RE
WR
DACK
DRQ
IRQ
RES
MODE
E
CN9
MAIN
CN4
+5
+5
E
E
CN8
PSM
CN1
E
+5
+5
DB0
DB1
DB2
DB3
DB4
DB5
DB6
DB7
A0
TCO
FDCS
RE
WR
DACK
DRQ
IRQ
RES
MODE
E
DIGITAL DISK RECORDER (SY-FD20)
[OPTION]

SXPG200711D


CN1
E
+5
+5
DB0
DB1
DB2
DB3
DB4
DB5
DB6
DB7
A0
TCO
FDCS
RE
WR
DACK
DRQ
IRQ
RES
MODE
E
1
22
CN4
+5
+5
E
E
1
4
CN2
E
+5
+5
DB0
DB1
DB2
DB3
DB4
DB5
DB6
DB7
•
1
12
CN3
A0
TCO
FDCS
RE
WR
DACK
DRQ
IRQ
RES
MODE
E
1
11

MEMO

REPLACEMENT PARTS LIST......P.C.B. and Wiring Parts

Notes:

1. Printed circuit board assembly with mark (NLA) is no longer available after production discontinuation of the complete set.
2. Important safety notice
   Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. The "S" mark is service standard parts and may differ from production parts.
4. ○ mark are new parts.
5. For part No. with area mark, check the area when placing an order.

■ PRINTED CIRCUIT BOARD

	NLA	Area	Part No.	Description	Per/Set
○	NLA	EZ M XM XL MC	SXPG200181	MAIN	1
○	NLA	N	SXPG200141	MAIN	1
○	NLA	Others	SXPG2001111	MAIN	1
○	NLA		SXPG200921	MKB 1	2
○	NLA		SXPG201011	MKB 2	2
○	NLA	EZ M XM XL MC	SXPG200431	EJ II	1
○	NLA	Others	SXPG200411	EJ II	1
○	NLA		SXPG146021	DRV	1
○	NLA		SXPG201211	PKB	1
	NLA		SXPG103211	EXP	1
○	NLA	M XM MC	S0PG202561A	ACP	1
○	NLA	N	S0PG202511A	ACP	1
○	NLA	EK XL XR XD XS X	S0PG202531A	ACP	1
○	NLA	Others	S0PG202521A	ACP	1
○	NLA	M XM MC	SXPG201521B	PSS	1
○	NLA	Others	SXPG201511B	PSS	1
○	NLA		SXPG201511C	PSM	1
○	NLA		SXPG139271	PA	1
○	NLA		SXPG200711B	CN	1
○	NLA		SXPG201411	JACK	1
○	NLA		SXPG200711E	MVOL	1
○	NLA		SXPG200631	CPL	1
○	NLA		SXPG200711C	ESW	1
○	NLA		SXPG200531	CPSL	1
○	NLA		SXPG200731A	CPC	1
○	NLA		QSLG003AA	LCD	1
○	NLA		SXPG200831	CPR	1
○	NLA		SXPG200711D	FDCN	1

MAIN MAIN CIRCUIT

	Ref. No.	Part No.	Description	Per/Set
	INTEGRATED CIRCUITS			
	IC1	SVIGD70320GJ	16 bit Microcomputer	1
	IC2	SVIGMB621407	Gate Array	1
	IC3	SVIGD656C329	Gate Array	1
	IC4	SVIGLH701088	16 bit Microcomputer	1
○	IC5	QSIGAGN3BX0	1M bit EP ROM	1
○	IC6	QSIGAGN3AX0	1M bit EP ROM	1
	IC7, 15, 105	SVIGHM65256	256K bit Partial S RAM	3
	IC8	SVIGM5256BLL	256K bit S RAM	1
○	IC9	QSIGU3C04742	4M bit Mask ROM	1
○	IC10	M74HC245P	3-State Buffer	1
	IC11~13	SVIGM74HC244	3-State Buffer	3
○	IC14	QSIGAGN3CX0	1M bit EP ROM	1
	IC16	SVIGTLP513	Photo Coupler	1
	IC17	SVIGM74LS07	Hex Buffers (O.C.)	1
	IC18	SVIGMSM6253	A/D Converter	1
	IC19	SVIGM74H138	Decoder	1
○	IC20	M74HC139P	Decoder	1
	IC21	SVIGM74H02	Quad 2-input NOR Gates	1
	IC22, 26, 30, 34, 38	MN6635	Tone Generator LSI	5
	IC23, 27, 31, 35, 39	SVIGBA9221	12 bit D-A Converter	5
	IC24, 28, 32, 36, 40	SVIGM5238L	Operational Amplifier	5
	IC25, 29, 33, 37, 41	SVIGTC4051BP	8-channel Multiplexer	5
○	IC42	QSIGU3C04740	4M bit Mask ROM	1
○	IC43	QSIGU3C04738	4M bit Mask ROM	1
○	IC45	QSIGU3C04732	4M bit Mask ROM	1
○	IC47	QSIGU3C04730	4M bit Mask ROM	1
	IC48, 49	SVIGM74HC374	3-state D-type Flip-Flops	2
	IC50~89	SVIGM74H4066	Quad Bilateral Switches	40
	IC90~94, 96~98, 101, 104, 111	SVIGM5218L	Operational Amplifier	11
○	IC99	M74HC174P	Hex D-type Flip-Flops	1
	IC108	SVIGM74H00	Quad 2-input NAND Gates	1
	IC109	SVIGM74H32	Quad 2-input OR Gates	1
	IC110	QSIGU3C04741	4M bit Mask ROM	1
	TRANSISTORS			
	Q2~4, 16	2SC1047C		4
	DIODES			
	D1~5, 10, 11, 13, 14	MA165TA5		9
○	D12	MA4056	Zener, 5.6V	1
	OSCILLATORS			
○	X1	QSXG1B1400A	14MHz, Quartz Oscillator	1
	X2	SVQGA16MX140	16MHz, Ceramic Oscillator	1
	X3~5	SVQG49S1600T	16MHz, Quartz Oscillator	3
	COMPONENT COMBINATIONS			
	Z1, 4, 9, 10	EXBPI8472JM	4.7KΩ×8	4
	Z2	EXBPI4472JM	4.7KΩ×4	1
	Z3, 5~8	EXAMR14A1002	1KΩ/2KΩ, Ladder Network	5
	JACKS			
	JK1~3	SJSG1370A	MIDI (THRU, OUT, IN)	3
	RESISTORS			
	R1, 2	ERDS2TJ473	47KΩ	2
	R3, 4	ERDS2TJ474	470KΩ	2
	R6	ERDS2TJ221	220Ω	1
	R7	ERDS2TJ331	330Ω	1
	R9, 10	ERDS2TJ221	220Ω	2

Ref. No.	Part No.	Description	Per/Set
R11	ERDS2TJ472	4.7KΩ	1
R12, 13	ERDS2TJ221	220Ω	2
R15	ERDS2TJ103	10KΩ	1
R16	ERDS2TJ332	3.3KΩ	1
R26	ERDS2TJ472	4.7KΩ	1
R28~31	ERDS2TJ472	4.7KΩ	4
R32	ERDS2TJ331	330Ω	1
R41	ERDS2TJ154	150KΩ	1
R42, 43	ERDS2TJ101	100Ω	2
R45, 46	ERDS2TJ472	4.7KΩ	2
R52	ERDS2TJ682	6.8KΩ	1
R54	ERDS2TJ682	6.8KΩ	1
R56	ERDS2TJ103	10KΩ	1
R57, 58	ERDS2TJ472	4.7KΩ	2
R59	ERDS2TJ105	1MΩ	1
R60~62	ERDS2TJ472	4.7KΩ	3
R63, 64	ERDS2TJ473	47KΩ	2
R65, 66	ERDS2TJ472	4.7KΩ	2
R69	ERDS2TJ101	100Ω	1
R82	ERDS2TJ473	47KΩ	1
R83	ERDS2TJ472	4.7KΩ	1
R85, 86	ERDS2TJ471	470Ω	2
R87	ERDS2TJ183	18KΩ	1
R88	ERDS2TJ333	33KΩ	1
R89, 90	ER0S2TKF4700	470Ω, ±1%	2
R91, 92	ERDS2TJ471	470Ω	2
R93	ERDS2TJ333	33KΩ	1
R94	ERDS2TJ183	18KΩ	1
R95, 96	ER0S2TKF4700	470Ω, ±1%	2
R97, 98	ERDS2TJ471	470Ω	2
R99	ERDS2TJ123	12KΩ	1
R100	ER0S2TKF4700	470Ω, ±1%	1
R101, 102	ERDS2TJ472	4.7KΩ	2
R103, 104	ERDS2TJ222	2.2KΩ	2
R105, 106	ERDS2TJ472	4.7KΩ	2
R115, 116	ERDS2TJ104	100KΩ	2
R118~121	ERDS2TJ104	100KΩ	4
R123~126	ERDS2TJ225	2.2MΩ	4
R127~134	ERDS2TJ473	47KΩ	8
R135, 136	ERDS2TJ683	68KΩ	2
R137~152	ERDS2TJ473	47KΩ	16
R153	ERDS2TJ224	220KΩ	1
R154~157	ERDS2TJ334	330KΩ	4
R158	ER0S2TKF4700	470Ω, ±1%	1
R159, 160	ERDS2TJ471	470Ω	2
R161	ERDS2TJ183	18KΩ	1
R162	ERDS2TJ333	33KΩ	1
R163	ER0S2TKF4700	470Ω, ±1%	1
R164	ERDS2TJ101	100Ω	1
R165	ER0S2TKF4700	470Ω, ±1%	1
R166, 167	ERDS2TJ471	470Ω	2
R168	ERDS2TJ333	33KΩ	1
R169	ERDS2TJ183	18KΩ	1
R170	ER0S2TKF4700	470Ω, ±1%	1
R171~186	ERDS2TJ473	47KΩ	16
R187, 188	ERDS2TJ683	68KΩ	2
R193	ERDS2TJ104	100KΩ	1
R195	ERDS2TJ104	100KΩ	1
R198~200	ERDS2TJ104	100KΩ	3
R204~206	ERDS2TJ104	100KΩ	3
R210~212	ERDS2TJ104	100KΩ	3
R216~218	ERDS2TJ104	100KΩ	3
R222, 223	ERDS2TJ472	4.7KΩ	2
R228, 229 ⚠	ERD2FCJ4R7	4.7Ω, 1/4W, Fuse Type	2
R230, 231 ⚠	ERQ14AJ2R0P	2Ω, 1/4W, Fuse Type	2
R239	ER0S2TKF4700	470Ω, ±1%	1
R240	ERDS2TJ104	100KΩ	1
R244	ERDS2TJ103	10KΩ	1

Ref. No.	Part No.	Description	Per/Set
R245, 246	ERDS2TJ472	4.7KΩ	2
R248	ERDS2TJ472	4.7KΩ	1
R250~254	ERDS2TJ101	100Ω	5
R256~288	ERDS2TJ101	100Ω	33
R289	ERDS2TJ103	10KΩ	1
R300, 301	ERDS2TJ104	100KΩ	2
R302	ERDS2TJ222	2.2KΩ	1
R303	ERDS2TJ683	68KΩ	1
CAPACITORS			
C1, 2	ECQG1H102KZ	0.001μF	2
C3, 4	ECKR1E473ZV	0.047μF	2
C7	ECEA1HKA010	1μF, 50V	1
C8, 9	ECCR1H220J	22pF	2
C10	ECEA0JKA331	330μF, 6.3V	1
C11, 12	ECKR1E473ZV	0.047μF	2
C16, 17	ECRR1H104ZF	0.1μF	2
C18	EECF5R5U105	1F, 5.5V, Memory Back-up	1
C19	ECEA0JKA101	100μF, 6.3V	1
C20	ECCR1H470J	47pF	1
C22	ECCR1H680J	68pF	1
C23	ECRR1H104ZF	0.1μF	1
C24, 25	ECKR1E473ZV	0.047μF	2
C27, 28	ECCR1H220J	22pF	2
C29~31	ECKR1E473ZV	0.047μF	3
C32	EECF5R5U105	1F, 5.5V, Memory Back-up	1
C33	ECKR1E473ZV	0.047μF	1
C34, 35	ECSF1EE225	2.2μF, 25V	2
C36	ECCR1H221J	220pF	1
C37, 38	ECCR1H220J	22pF	2
C39	ECEA0JKA331	330μF, 6.3V	1
C40	ECRR1H104ZF	0.1μF	1
C42	ECSF1EE225	2.2μF, 25V	1
C43	ECCR1H221J	220pF	1
C44	ECEA0JKA331	330μF, 6.3V	1
C45	ECRR1H104ZF	0.1μF	1
C46	ECEA0JKA331	330μF, 6.3V	1
C47	ECSF1EE225	2.2μF, 25V	1
C48	ECSF1VE106	10μF, 35V	1
C49	ECCR1H221J	220pF	1
C50	ECEA0JKA331	330μF, 6.3V	1
C51	ECRR1H104ZF	0.1μF	1
C52	ECEA0JKA331	330μF, 6.3V	1
C53, 54	ECCR1H220J	22pF	2
C55	ECKR1E473ZV	0.047μF	1
C58~61	ECQV1H104JZ	0.1μF	4
C62	ECQG1H472KZ	0.0047μF	1
C63	ECQG1H102KZ	0.001μF	1
C64	ECQG1H472KZ	0.0047μF	1
C65	ECQG1H102KZ	0.001μF	1
C66	ECQG1H472KZ	0.0047μF	1
C67	ECQG1H102KZ	0.001μF	1
C68	ECQG1H472KZ	0.0047μF	1
C69	ECQG1H102KZ	0.001μF	1
C70	ECQG1H472KZ	0.0047μF	1
C71	ECQG1H102KZ	0.001μF	1
C72	ECQG1H472KZ	0.0047μF	1
C73	ECQG1H102KZ	0.001μF	1
C74	ECQG1H472KZ	0.0047μF	1
C75	ECQG1H102KZ	0.001μF	1
C76	ECQG1H472KZ	0.0047μF	1
C77	ECQG1H102KZ	0.001μF	1
C78	ECEA0JKA331	330μF, 6.3V	1
C79	ECSF1EE225	2.2μF, 25V	1
C80	ECKR1E473ZV	0.047μF	1
C82	ECKR1E473ZV	0.047μF	1
C84, 85	ECKR1E473ZV	0.047μF	2

Ref. No.	Part No.	Description	Per/Set
C87	ECKR1E473ZV	0.047μF	1
C88	ECCR1H470J	47pF	1
C89	ECQG1H472KZ	0.0047μF	1
C90	ECQG1H102KZ	0.001μF	1
C91	ECQG1H472KZ	0.0047μF	1
C92	ECQG1H102KZ	0.001μF	1
C93	ECQG1H472KZ	0.0047μF	1
C94	ECQG1H102KZ	0.001μF	1
C95	ECQG1H472KZ	0.0047μF	1
C96	ECQG1H102KZ	0.001μF	1
C97	ECQG1H472KZ	0.0047μF	1
C98	ECQG1H102KZ	0.001μF	1
C99	ECQG1H472KZ	0.0047μF	1
C100	ECQG1H102KZ	0.001μF	1
C101	ECQG1H472KZ	0.0047μF	1
C102	ECQG1H102KZ	0.001μF	1
C103	ECQG1H472KZ	0.0047μF	1
C104	ECQG1H102KZ	0.001μF	1
C105	ECKR1E473ZV	0.047μF	1
C107	ECKR1E473ZV	0.047μF	1
C109	ECKR1E473ZV	0.047μF	1
C111	ECKR1E473ZV	0.047μF	1
C113	ECQG1H472KZ	0.0047μF	1
C114	ECQG1H102KZ	0.001μF	1
C115	ECQG1H472KZ	0.0047μF	1
C116	ECQG1H102KZ	0.001μF	1
C117	ECQG1H472KZ	0.0047μF	1
C118	ECQG1H102KZ	0.001μF	1
C119	ECQG1H472KZ	0.0047μF	1
C120	ECQG1H102KZ	0.001μF	1
C121	ECQG1H472KZ	0.0047μF	1
C122	ECQG1H102KZ	0.001μF	1
C123	ECQG1H472KZ	0.0047μF	1
C124	ECQG1H102KZ	0.001μF	1
C125	ECQG1H472KZ	0.0047μF	1
C126	ECQG1H102KZ	0.001μF	1
C127	ECQG1H472KZ	0.0047μF	1
C128	ECQG1H102KZ	0.001μF	1
C129	ECKR1E473ZV	0.047μF	1
C131	ECKR1E473ZV	0.047μF	1
C133	ECKR1E473ZV	0.047μF	1
C135, 136	ECKR1E473ZV	0.047μF	2
C137	ECSF1VE106	10μF, 35V	1
C138	ECQV1H104JZ	0.1μF	1
C140, 141	ECQV1H104JZ	0.1μF	2
C142	ECCR1H471J	470pF	1
C143	ECCR1H470J	47pF	1
C144	ECCR1H471J	470pF	1
C145	ECCR1H470J	47pF	1
C146, 147	ECSF1EE225	2.2μF, 25V	2
C149	ECCR1H221J	220pF	1
C150, 151	ECEA0JKA331	330μF, 6.3V	2
C152, 153	ECCR1H220J	22pF	2
C154	ECSF1EE225	2.2μF, 25V	1
C155	ECCR1H221J	220pF	1
C156, 157	ECEA0JKA331	330μF, 6.3V	2
C158	ECQG1H472KZ	0.0047μF	1
C159	ECQG1H102KZ	0.001μF	1
C160	ECQG1H472KZ	0.0047μF	1
C161	ECQG1H102KZ	0.001μF	1
C162	ECQG1H472KZ	0.0047μF	1
C163	ECQG1H102KZ	0.001μF	1
C164	ECQG1H472KZ	0.0047μF	1
C165	ECQG1H102KZ	0.001μF	1
C166	ECQG1H472KZ	0.0047μF	1
C167	ECQG1H102KZ	0.001μF	1
C168	ECQG1H472KZ	0.0047μF	1
C169	ECQG1H102KZ	0.001μF	1
C170	ECQG1H472KZ	0.0047μF	1
C171	ECQG1H102KZ	0.001μF	1
C172	ECQG1H472KZ	0.0047μF	1
C173	ECQG1H102KZ	0.001μF	1
C174	ECKR1E473ZV	0.047μF	1
C176	ECKR1E473ZV	0.047μF	1
C178	ECKR1E473ZV	0.047μF	1
C180	ECKR1E473ZV	0.047μF	1
C181	ECQG1H472KZ	0.0047μF	1
C182	ECQG1H102KZ	0.001μF	1
C183	ECQG1H472KZ	0.0047μF	1
C184	ECQG1H102KZ	0.001μF	1
C185	ECQG1H472KZ	0.0047μF	1
C186	ECQG1H102KZ	0.001μF	1
C188	ECQG1H472KZ	0.0047μF	1
C189	ECQG1H102KZ	0.001μF	1
C190	ECQG1H472KZ	0.0047μF	1
C191	ECQG1H102KZ	0.001μF	1
C192	ECQG1H472KZ	0.0047μF	1
C193	ECQG1H102KZ	0.001μF	1
C194	ECQG1H472KZ	0.0047μF	1
C195	ECQG1H102KZ	0.001μF	1
C196	ECQG1H472KZ	0.0047μF	1
C197	ECQG1H102KZ	0.001μF	1
C198	ECKR1E473ZV	0.047μF	1
C200	ECKR1E473ZV	0.047μF	1
C202	ECKR1E473ZV	0.047μF	1
C204	ECKR1E473ZV	0.047μF	1
C205	ECSF1EE225	2.2μF, 25V	1
C206	ECQG1H152KZ	0.0015μF	1
C210	ECCR1H470J	47pF	1
C211	ECQG1H152KZ	0.0015μF	1
C215	ECCR1H470J	47pF	1
C216	ECQG1H332KZ	0.0033μF	1
C220	ECCR1H470J	47pF	1
C221	ECQG1H152KZ	0.0015μF	1
C225	ECCR1H470J	47pF	1
C226	ECQG1H152KZ	0.0015μF	1
C230	ECEA0JKA101	100μF, 6.3V	1
C234	ECEA0JKA331	330μF, 6.3V	1
C235, 236	ECEA1CKA101	100μF, 16V	2
C237	ECEA0JKA331	330μF, 6.3V	1
C239	ECQV1H104JZ	0.1μF	1
C241	ECQV1H104JZ	0.1μF	1
C245	ECCR1H101J	100pF	1
C246	ECQV1H474JZ	0.47μF	1
C247	ECKR1E473ZV	0.047μF	1
C248	ECSF1EE225	2.2μF, 25V	1
C250, 251	ECKR1E473ZV	0.047μF	2
C254	ECSF1EE225	2.2μF, 25V	1
C256	ECSF1EE225	2.2μF, 25V	1
C257	ECKR1E473ZV	0.047μF	1
C258	ECRR1H104ZF	0.1μF	1
C259	ECSF1EE225	2.2μF, 25V	1
C261	ECKR1E473ZV	0.047μF	1
C262	ECRR1H104ZF	0.1μF	1
C265~273	ECKR1E473ZV	0.047μF	9
C276, 277	ECKR1E473ZV	0.047μF	2
C279	ECKR1E473ZV	0.047μF	1
C281~284	ECKR1E473ZV	0.047μF	4
C285	ECQG1H102KZ	0.001μF	1
C286~288	ECKR1E473ZV	0.047μF	3
C289	ECCR1H331J	330pF	1
C291	ECKR1E473ZV	0.047μF	1
C292	ECRR1H104ZF	0.1μF	1
C293	ECSF1EE225	2.2μF, 25V	1
C294	ECRR1H104ZF	0.1μF	1
C295, 296	ECKR1E473ZV	0.047μF	2

	Ref. No.	Part No.	Description	Per/Set
	C297, 298	ECRR1H104ZF	0.1μF	2
	C300, 301	ECCR1H101J	100pF	2
	C302, 303	ECQG1H222KZ	0.0022μF	2
	C304, 305	ECKR1E473ZV	0.047μF	2

MKB1 MANUAL KEYBOARD 1 CIRCUIT

	Ref. No.	Part No.	Description	Per/Set
	INTEGRATED CIRCUITS			
	IC1	MN50020PGV	Gate Array	1
	IC2	MN1231	1K bit ROM	1
	DIODES			
S	D1~74	MA162A	MA150IR (SUB. Part)	74
	OSCILLATOR			
	X1	EF0FC4004A3	4MHz, Ceramic Oscillator	1
	COMPONENT COMBINATION			
	Z1	EXBPI8472JM	4.7KΩ×8	1
	RESISTORS			
	R1	ERDS2TJ222	2.2KΩ	1
	R2	ERDS2TJ472	4.7KΩ	1
	CAPACITOR			
	C1	ECRR1H104ZF	0.1μF	1

MKB2 MANUAL KEYBOARD 2 CIRCUIT

	Ref. No.	Part No.	Description	Per/Set
	DIODES			
S	D1~24	MA162A	MA150IR (SUB. Part)	24

EJ II EFFECT, MIXING & JACK II CIRCUIT

	Ref. No.	Part No.	Description	Per/Set
	INTEGRATED CIRCUITS			
	IC1	SVIGTC4051BP	8-channel Multiplexer	1
	IC2	SVIG65002018	Gate Array	1
○	IC3	M66240P	PWM Generator	1
	IC4, 5, 42	SVIGTC4053BP	2-channel Multiplexer	3
	IC6~8, 15, 19, 21, 24~28, 33, 38~40, 43~50, 52, 53	SVIGM5218L	Operational Amplifier	25
	IC9, 16, 20, 22, 36, 37	SVIGUPC1252H	VCA	6
	IC10, 23	SVIGUPC1253H	RMS Level Sensor	2
	IC11, 13, 17, 29, 30	SVIGMSM4011	2-input NAND Gate	5
	IC12, 14, 18	MN3004	BBD (512 stages)	3
	IC31, 32	MN3006	BBD (128 stages)	2
	IC34, 35	SVIGBA6110	VCA	2
	IC41	SVIGLM1894N	Dynamic Noise Reduction	1
	IC51	SVIGM74H04	Hex Inverters	1
	TRANSISTORS			
S	Q1, 3, 4, 7, 8, 12, 13, 20~26, 28, 30	2SC2320LFG	2SC1310FG (SUB. Part)	16
S	Q2, 5, 6, 9, 10, 11, 29	2SA1015-GR	2SA933STRS (SUB. Part)	6
	Q14, 16	2SC3940AR		2
	Q15, 17	2SA1534AR		2
	Q18, 19	2SJ105GR	FET	2
	DIODES			
	D1	MA4062	Zener, 6.2V	1
	D2	SVDGRK14S	Diode	1
	D3~21	MA165TA5		19
	OSCILLATORS			
	X1	SVQG49S1200T	12MHz, Quartz Oscillator	1
	COILS			
	L1, 2 EZ XL M MC XM	SLQG15W34DPQ	Coil	2
	JACKS			
	JK1~4	SJJG400A	LINE OUT, AUX IN	4
	SEMI-FIXED RESISTORS			
	VR1, 2	EVND4AA00B24	20KΩ B, BBD Bias	2
	VR3	EVND4AA00B14	10KΩ B, Offset Adj.	1
	RESISTORS			
	R1~6	ERDS2TJ102	1KΩ	6
	R7	ERDS2TJ683	68KΩ	1
	R8	ERDS2TJ101	100Ω	1
	R9~13	ERDS2TJ682	6.8KΩ	5
	R14	ERDS2TJ563	56KΩ	1
	R15	ERDS2TJ682	6.8KΩ	1
	R16	ERDS2TJ563	56KΩ	1
	R17	ERDS2TJ682	6.8KΩ	1
	R18	ERDS2TJ563	56KΩ	1
	R19	ERDS2TJ103	10KΩ	1
	R20	ERDS2TJ563	56KΩ	1
	R21	ERDS2TJ103	10KΩ	1
	R22	ERDS2TJ563	56KΩ	1
	R23	ERDS2TJ103	10KΩ	1
	R24, 25	ERDS2TJ332	3.3KΩ	2
	R26, 27	ERDS2TJ102	1KΩ	2
	R28	ERDS2TJ332	3.3KΩ	1
	R29~31	ERDS2TJ103	10KΩ	3
	R32~34	ERDS2TJ104	100KΩ	3
	R35	ERDS2TJ331	330Ω	1
	R36	ERDS2TJ153	15KΩ	1
	R37	ERDS2TJ331	330Ω	1
	R38	ERDS2TJ153	15KΩ	1
	R39	ERDS2TJ331	330Ω	1
	R40	ERDS2TJ153	15KΩ	1
	R41	ERDS2TJ104	100KΩ	1

Ref. No.	Part No.	Description	Per/Set
R42	ERDS2TJ102	1KΩ	1
R43	ERDS2TJ473	47KΩ	1
R44~46	ERDS2TJ274	270KΩ	3
R47	ERDS2TJ332	3.3KΩ	1
R48	ERDS2TJ472	4.7KΩ	1
R49	ERDS2TJ332	3.3KΩ	1
R50, 51	ERDS2TJ223	22KΩ	2
R52	ERDS2TJ154	150KΩ	1
R53	ERDS2TJ474	470KΩ	1
R54	ERDS2TJ100	10Ω	1
R55	ERDS2TJ101	100Ω	1
R56	ERDS2TJ105	1MΩ	1
R58	ERDS2TJ473	47KΩ	1
R59	ERDS2TJ154	150KΩ	1
R60, 61	ERDS2TJ332	3.3KΩ	2
R62, 63	ERDS2TJ154	150KΩ	2
R64, 65	ERDS2TJ332	3.3KΩ	2
R66, 67	ERDS2TJ154	150KΩ	2
R68, 69	ERDS2TJ332	3.3KΩ	2
R70, 71	ERDS2TJ154	150KΩ	2
R72	ERDS2TJ153	15KΩ	1
R73	ERDS2TJ103	10KΩ	1
R74	ERDS2TJ333	33KΩ	1
R75 ⚠	ERD2FCG220	22Ω, 1/4W, Fuse Type	1
R76	ERDS2TJ154	150KΩ	1
R77	ERDS2TJ153	15KΩ	1
R78	ERDS2TJ103	10KΩ	1
R79	ERDS2TJ333	33KΩ	1
R80 ⚠	ERD2FCG220	22Ω, 1/4W, Fuse Type	1
R81	ERDS2TJ683	68KΩ	1
R82	ERDS2TJ333	33KΩ	1
R83	ERDS2TJ154	150KΩ	1
R84	ERDS2TJ332	3.3KΩ	1
R85	ERDS2TJ472	4.7KΩ	1
R86	ERDS2TJ103	10KΩ	1
R87	ERDS2TJ153	15KΩ	1
R88	ERDS2TJ103	10KΩ	1
R89	ERDS2TJ154	150KΩ	1
R90 ⚠	ERD2FCG220	22Ω, 1/4W, Fuse Type	1
R91	ERDS2TJ333	33KΩ	1
R92	ERDS2TJ683	68KΩ	1
R93	ERDS2TJ333	33KΩ	1
R94	ERDS2TJ472	4.7KΩ	1
R95~97	ERDS2TJ473	47KΩ	3
R98	ERDS2TJ472	4.7KΩ	1
R99~101	ERDS2TJ473	47KΩ	3
R102	ERDS2TJ472	4.7KΩ	1
R103~105	ERDS2TJ473	47KΩ	3
R106	ERDS2TJ103	10KΩ	1
R107	ERDS2TJ224	220KΩ	1
R108	ERDS2TJ154	150KΩ	1
R109	ERDS2TJ224	220KΩ	1
R110	ERDS2TJ474	470KΩ	1
R111	ERDS2TJ104	100KΩ	1
R112, 113	ERDS2TJ224	220KΩ	2
R114	ERDS2TJ104	100KΩ	1
R115	ERDS2TJ224	220KΩ	1
R116	ERDS2TJ154	150KΩ	1
R117	ERDS2TJ224	220KΩ	1
R118	ERDS2TJ474	470KΩ	1
R119	ERDS2TJ224	220KΩ	1
R121, 122	ERDS2TJ224	220KΩ	2
R127	ERDS2TJ334	330KΩ	1
R128~130	ERDS2TJ104	100KΩ	3
R131	ERDS2TJ563	56KΩ	1
R132, 133	ERDS2TJ472	4.7KΩ	2
R134	ERDS2TJ331	330Ω	1
R135	ERDS2TJ152	1.5KΩ	1
R136	ERDS2TJ102	1KΩ	1
R137	ERDS2TJ331	330Ω	1
R138	ERDS2TJ223	22KΩ	1
R139	ERDS2TJ333	33KΩ	1
R140	ERDS2TJ223	22KΩ	1
R141	ERDS2TJ103	10KΩ	1
R142	ERDS2TJ223	22KΩ	1
R143	ERDS2TJ333	33KΩ	1
R144	ERDS2TJ223	22KΩ	1
R145	ERDS2TJ103	10KΩ	1
R146, 147	ERDS2TJ683	68KΩ	2
R149	ERDS2TJ222	2.2KΩ	1
R150	ERDS2TJ101	100Ω	1
R151, 152	ERDS2TJ223	22KΩ	2
R153	ERDS2TJ101	100Ω	1
R154	ERDS2TJ222	2.2KΩ	1
R156	ERDS2TJ332	3.3KΩ	1
R157	ERDS2TJ472	4.7KΩ	1
R158	ERDS2TJ332	3.3KΩ	1
R159	ERDS2TJ102	1KΩ	1
R160	ERDS2TJ332	3.3KΩ	1
R161	ERDS2TJ472	4.7KΩ	1
R162, 163	ERDS2TJ104	100KΩ	2
R164	ERDS2TJ393	39KΩ	1
R165	ERDS2TJ223	22KΩ	1
R166	ERDS2TJ333	33KΩ	1
R167	ERDS2TJ103	10KΩ	1
R168, 169	ERDS2TJ104	100KΩ	2
R170, 171	ERDS2TJ154	150KΩ	2
R172	ERDS2TJ333	33KΩ	1
R173, 174	ERDS2TJ683	68KΩ	2
R175	ERDS2TJ154	150KΩ	1
R177, 178	ERDS2TJ104	100KΩ	2
R179	ERDS2TJ333	33KΩ	1
R180	ERDS2TJ223	22KΩ	1
R181	ERDS2TJ273	27KΩ	1
R182	ERDS2TJ103	10KΩ	1
R183	ERDS2TJ104	100KΩ	1
R184, 185	ERDS2TJ154	150KΩ	2
R186	ERDS2TJ104	100KΩ	1
R187	ERDS2TJ333	33KΩ	1
R188, 189	ERDS2TJ153	15KΩ	2
R190	ERDS2TJ333	33KΩ	1
R191, 192	ERDS2TJ472	4.7KΩ	2
R193~196	ERDS2TJ100	10Ω	4
R197, 198	ERDS2TJ472	4.7KΩ	2
R199	ERDS2TJ104	100KΩ	1
R200	ERDS2TJ473	47KΩ	1
R201	ERDS2TJ223	22KΩ	1
R202	ERDS2TJ154	150KΩ	1
R203, 204	ERDS2TJ332	3.3KΩ	2
R205	ERDS2TJ154	150KΩ	1
R206, 207	ERDS2TJ473	47KΩ	2
R208, 209	ERDS2TJ223	22KΩ	2
R210	ERDS2TJ154	150KΩ	1
R211	ERDS2TJ153	15KΩ	1
R212	ERDS2TJ103	10KΩ	1
R213	ERDS2TJ333	33KΩ	1
R214 ⚠	ERD2FCG220	22Ω, 1/4W, Fuse Type	1
R215~219	ERDS2TJ333	33KΩ	5
R220 ⚠	ERD2FCG220	22Ω, 1/4W, Fuse Type	1
R221	ERDS2TJ154	150KΩ	1
R222	ERDS2TJ153	15KΩ	1
R223	ERDS2TJ103	10KΩ	1
R224	ERDS2TJ154	150KΩ	1
R225, 226	ERDS2TJ332	3.3KΩ	2
R227	ERDS2TJ154	150KΩ	1
R228	ERDS2TJ223	22KΩ	1

Ref. No.	Part No.	Description	Per/Set
R229	ERDS2TJ682	6.8KΩ	1
R230~234	ERDS2TJ472	4.7KΩ	5
R235, 236	ERDS2TJ102	1KΩ	2
R237	ERDS2TJ104	100KΩ	1
R238	ERDS2TJ473	47KΩ	1
R239	ERDS2TJ103	10KΩ	1
R240	ERDS2TJ104	100KΩ	1
R241, 242	ERDS2TJ102	1KΩ	2
R243	ERDS2TJ103	10KΩ	1
R244	ERDS2TJ473	47KΩ	1
R245	ERDS2TJ333	33KΩ	1
R246, 247	ERDS2TJ473	47KΩ	2
R248	ERDS2TJ333	33KΩ	1
R249	ERDS2TJ473	47KΩ	1
R250	ERDS2TJ333	33KΩ	1
R251	ERDS2TJ332	3.3KΩ	1
R252	ERDS2TJ472	4.7KΩ	1
R253	ERDS2TJ103	10KΩ	1
R254	ERDS2TJ332	3.3KΩ	1
R255	ERDS2TJ472	4.7KΩ	1
R256	ERDS2TJ103	10KΩ	1
R257	ERDS2TJ332	3.3KΩ	1
R258	ERDS2TJ472	4.7KΩ	1
R259	ERDS2TJ332	3.3KΩ	1
R260	ERDS2TJ154	150KΩ	1
R261	ERDS2TJ105	1MΩ	1
R262	ERDS2TJ100	10Ω	1
R263	ERDS2TJ101	100Ω	1
R264	ERDS2TJ474	470KΩ	1
R266	ERDS2TJ222	2.2KΩ	1
R267	ERDS2TJ332	3.3KΩ	1
R268, 269 ⚠	ERD2FCJ4R7	4.7Ω, 1/4W, Fuse Type	2
R270, 271	ERDS2TJ102	1KΩ	2
R272, 273	ERDS2TJ473	47KΩ	2
R275	ERDS2TJ223	22KΩ	1
R276	ERDS2TJ102	1KΩ	1
R277	ERDS2TJ221	220Ω	1
R278	ERDS2TJ222	2.2KΩ	1
R279	ERDS2TJ102	1KΩ	1
R280	ERDS2TJ473	47KΩ	1
R281	ERDS2TJ102	1KΩ	1
R282	ERDS2TJ222	2.2KΩ	1
R283, 284	ERDS2TJ103	10KΩ	2
R285	ERDS2TJ472	4.7KΩ	1
R286	ERDS2TJ471	470Ω	1
R287	ERDS2TJ334	330KΩ	1
R288	ERDS2TJ473	47KΩ	1
R289, 290	ERDS2TJ224	220KΩ	2
R291	ERDS2TJ473	47KΩ	1
R292, 293	ERDS2TJ472	4.7KΩ	2
R294	ERDS2TJ474	470KΩ	1
R295	ERDS2TJ472	4.7KΩ	1
R296, 297	ERDS2TJ104	100KΩ	2
R298	ERDS2TJ472	4.7KΩ	1
R299	ERDS2TJ102	1KΩ	1
R300	ERDS2TJ103	10KΩ	1
R301	ERDS2TJ103	10KΩ	1
R302	ERDS2TJ154	150KΩ	1
R303	ERDS2TJ224	220KΩ	1
R304, 305	ERDS2TJ473	47KΩ	2
R306 ⚠	ERD2FCJ4R7	4.7Ω, 1/4W, Fuse Type	1
R307, 308	ERDS2TJ222	2.2KΩ	2
R309	ERDS2TJ101	100Ω	1
R310	ERDS2TJ103	10KΩ	1
R311	ERDS2TJ472	4.7KΩ	1
R312	ERDS2TJ102	1KΩ	1
R319	ERDS2TJ102	1KΩ	1
R320, 321	ERDS2TJ333	33KΩ	2

Ref. No.	Part No.	Description	Per/Set
R322	ERDS2TJ105	1MΩ	1
R323	ERDS2TJ333	33KΩ	1
R324, 325	ERDS2TJ222	2.2KΩ	2
R326	ERDS2TJ152	1.5KΩ	1
R327	ERDS2TJ151	150Ω	1
R328	ERDS2TJ221	220Ω	1
R329, 330	ERDS2TJ333	33KΩ	2
R331	ERDS2TJ102	1KΩ	1
R332, 333	ERDS2TJ333	33KΩ	2
R334	ERDS2TJ102	1KΩ	1
R335, 336	ERDS2TJ333	33KΩ	2
R337	ERDS2TJ471	470Ω	1
R338, 339	ERDS2TJ333	33KΩ	2
R340	ERDS2TJ471	470Ω	1
R341, 342	ERDS2TJ333	33KΩ	2
R343	ERDS2TJ471	470Ω	1
R344, 345	ERDS2TJ333	33KΩ	2
R346	ERDS2TJ102	1KΩ	1
R347, 348	ERDS2TJ333	33KΩ	2
R349~351	ERDS2TJ102	1KΩ	3
R352	ERDS2TJ105	1MΩ	1
R360	ERDS2TJ822	8.2KΩ	1
	CAPACITORS		
C5, 6	ECEA1HKN010	1μF, 50V	2
C8, 9	ECQG1H332KZ	0.0033μF	2
C10~12	ECQG1H472KZ	0.0047μF	3
C13, 14	ECCR1H470J	47pF	2
C15~17	ECCR1H680J	68pF	3
C18, 19	ECQG1H332KZ	0.0033μF	2
C20, 21	ECQB1H223JZ	0.022μF	2
C22	ECQG1H682KZ	0.0068μF	1
C23~25	ECEA1HKA2R2	2.2μF, 50V	3
C26	ECEA1CKA100	10μF, 16V	1
C27~29	ECEA1HKA2R2	2.2μF, 50V	3
C30	ECEA1HKN010	1μF, 50V	1
C31	ECQG1H472KZ	0.0047μF	1
C32	ECQV1H104JZ	0.1μF	1
C33	ECEA1HKA010	1μF, 50V	1
C34	ECEA1CKA100	10μF, 16V	1
C35~41	ECCR1H101J	100pF	7
C42	ECCR1H681J	680pF	1
C43, 44	ECEA1CKA470	47μF, 16V	2
C45	ECCR1H681J	680pF	1
C46, 47	ECCR1H101J	100pF	2
C48	ECQG1H222KZ	0.0022μF	1
C49	ECCR1H681J	680pF	1
C50	ECEA1CKA470	47μF, 16V	1
C51	ECQG1H222KZ	0.0022μF	1
C52, 53	ECCR1H101J	100pF	2
C54, 55	ECQG1H222KZ	0.0022μF	2
C56~58	ECCR1H470J	47pF	3
C59	ECEA1HKA010	1μF, 50V	1
C60	ECEA1CKA470	47μF, 16V	1
C61	ECQG1H682KZ	0.0068μF	1
C62	ECQV1H104JZ	0.1μF	1
C63	ECQG1H102KZ	0.001μF	1
C64	ECQG1H332KZ	0.0033μF	1
C65	ECEA1CKA100	10μF, 16V	1
C66	ECEA1HKA010	1μF, 50V	1
C67	ECEA1CKA470	47μF, 16V	1
C68	ECQG1H472KZ	0.0047μF	1
C69	ECEA1CKA100	10μF, 16V	1
C70	ECQG1H472KZ	0.0047μF	1
C71	ECEA1CKA100	10μF, 16V	1
C72	ECQG1H222KZ	0.0022μF	1
C73	ECCR1H151J	150pF	1

Ref. No.	Part No.	Description	Per/Set
C74	ECQG1H222KZ	0.0022μF	1
C75	ECCR1H151J	150pF	1
C76, 77	ECEA1HKN010	1μF, 50V	2
C80	ECCR1H221J	220pF	1
C81	ECCR1H470J	47pF	1
C82, 83	ECEA1HKN010	1μF, 50V	2
C84	ECQV1H104JZ	0.1μF	1
C85	ECQV1H154JZ	0.15μF	1
C86	ECEA1HKN010	1μF, 50V	1
C87	ECQV1H104JZ	0.1μF	1
C88	ECQV1H473JZ	0.047μF	1
C89	ECEA1HKA010	1μF, 50V	1
C90, 91	ECCR1H101J	100pF	2
C92	ECEA1HKA010	1μF, 50V	1
C93	ECQG1H102KZ	0.001μF	1
C94	ECEA1CKA470	47μF, 16V	1
C95	ECQG1H102KZ	0.001μF	1
C96, 97	ECCR1H221J	220pF	2
C98	ECQG1H102KZ	0.001μF	1
C99	ECEA1CKA470	47μF, 16V	1
C100	ECQG1H472KZ	0.0047μF	1
C101, 102	ECCR1H101J	100pF	2
C103	ECEA1CKA100	10μF, 16V	1
C104	ECEA1HKA010	1μF, 50V	1
C105, 106	ECQG1H472KZ	0.0047μF	2
C107	ECCR1H681J	680pF	1
C110	ECCR1H101J	100pF	1
C111	ECQG1H152KZ	0.0015μF	1
C112	ECCR1H101J	100pF	1
C113	ECQG1H152KZ	0.0015μF	1
C114	ECQV1H334JZ	0.33μF	1
C115	ECQG1H472KZ	0.0047μF	1
C116	ECQV1H104JZ	0.1μF	1
C117	ECEA1CKA100	10μF, 16V	1
C118	ECKR1E473ZV	0.047μF	1
C119	ECEA0JKA101	100μF, 6.3V	1
C120, 121	ECEA1CKA100	10μF, 16V	2
C122	ECQM1H473KV	0.047μF	1
C125	ECQM1H473KV	0.047μF	1
C128	ECKR1E473ZV	0.047μF	1
C129	ECEA0JKA101	100μF, 6.3V	1
C130, 131	ECKR1E473ZV	0.047μF	2
C132	ECEA1CKA470	47μF, 16V	1
C133	ECEA1EKA4R7	4.7μF, 25V	1
C134	ECEA1CKA470	47μF, 16V	1
C135	ECEA1EKA4R7	4.7μF, 25V	1
C136	ECKR1E473ZV	0.047μF	1
C139	ECKR1E473ZV	0.047μF	1
C142, 143	ECKR1E473ZV	0.047μF	2
C145	ECEA1HKA010	1μF, 50V	1
C146	ECEA1CKA100	10μF, 16V	1
C147	ECEA1HKA010	1μF, 50V	1
C148	ECEA1CKA100	10μF, 16V	1
C149	ECKR1E473ZV	0.047μF	1
C150	ECEA1EKA4R7	4.7μF, 25V	1
C151	ECEA1HKN010	1μF, 50V	1
C152, 153	ECCR1H220J	22pF	2
C154~156	ECEA1HKN010	1μF, 50V	3
C157	ECCR1H101J	100pF	1
C158	ECEA1HKN010	1μF, 50V	1
C159	ECCR1H331J	330pF	1
C160	ECKR1E473ZV	0.047μF	1
C161	ECCR1H331J	330pF	1
C162	ECKR1E473ZV	0.047μF	1
C163, 164	ECCR1H331J	330pF	2
C165, 166	ECCR1H220J	22pF	2
C167	ECQG1H222KZ	0.0022μF	1
C168	ECCR1H471J	470pF	1
C169	ECCR1H331J	330pF	1
C170	ECEA1CKA470	47μF, 16V	1
C171	ECQG1H222KZ	0.0022μF	1
C172, 173	ECCR1H221J	220pF	2
C174	ECCR1H470J	47pF	1
C175	ECEA1HKN010	1μF, 50V	1
C176	ECQG1H222KZ	0.0022μF	1
C177	ECCR1H221J	220pF	1
C178	ECKR1E473ZV	0.047μF	1
C179	ECCR1H681J	680pF	1
C180, 181	ECEA1HKN010	1μF, 50V	2
C182, 183	ECEA1HKA010	1μF, 50V	2
C184	ECCR1H151J	150pF	1
C185~187	ECKR1E473ZV	0.047μF	3
C189~209	ECKR1E473ZV	0.047μF	21
C211~215	ECKR1E473ZV	0.047μF	5
C218, 219	ECKR1E473ZV	0.047μF	2
C220	ECCR1H101J	100pF	1
C221	ECQV1H104JZ	0.1μF	1
C222	ECQV1H473JZ	0.047μF	1
C223	ECQM1H103KV	0.01μF	1
C224	ECRR1H104ZF	0.1μF	1
C225	ECCR1H101J	100pF	1
C226	ECCR1H470J	47pF	1
C227	ECQG1H152KZ	0.0015μF	1
C228	ECCR1H151J	150pF	1
C229	ECQV1H473JZ	0.047μF	1
C230	ECQG1H152KZ	0.0015μF	1
C231	ECCR1H151J	150pF	1
C232	ECQV1H473JZ	0.047μF	1
C233	ECQG1H152KZ	0.0015μF	1
C234	ECCR1H151J	150pF	1
C235	ECQV1H473JZ	0.047μF	1
C236	ECQG1H152KZ	0.0015μF	1
C237	ECCR1H151J	150pF	1
C238	ECQV1H473JZ	0.047μF	1
C239	ECQG1H152KZ	0.0015μF	1
C240	ECCR1H151J	150pF	1
C241	ECQV1H473JZ	0.047μF	1
C242	ECQG1H152KZ	0.0015μF	1
C243	ECCR1H151J	150pF	1
C244	ECQV1H473JZ	0.047μF	1
C245	ECQG1H152KZ	0.0015μF	1
C246	ECCR1H151J	150pF	1
C247	ECQV1H473JZ	0.047μF	1
C248	ECCR1H221J	220pF	1
C249	ECQV1H473JZ	0.047μF	1
C250	ECQV1H334JZ	0.33μF	1
C251	ECEA1HKN010	1μF, 50V	1
C301	ECEA1HKA2R2	2.2μF, 50V	1

DRV DIGITAL REVERB CIRCUIT

Ref. No.	Part No.	Description	Per/Set
INTEGRATED CIRCUITS			
IC1	MN1280R	Reset IC	1
IC2	SVIGHM65256	256K bit Partial S RAM	1
IC3	SVIGMB622416	Gate Array	1
IC4	MN8305S	A-D/D-A Converter	1
IC5	SVIG87064073	Digital Signal Processer	1
IC6	SVIGM5278L05	+5V Voltage Regulator	1
IC7	SVIGM5220L	Operational Amplifier	1
IC8~10	SVIGM5218L	Operational Amplifier	3

Ref. No.	Part No.	Description	Per/Set
IC11	SVIGLM1894N	Dynamic Noise Reduction	1
IC12	MN74HC02S	Quad 2-input NOR Gates	1
	TRANSISTORS		
Q1, 2	2SJ105GR	FET	2
	DIODES		
D1~5	MA165TA5		5
	OSCILLATOR		
X1	SVQGA20MX040	20MHz, Ceramic Oscillator	1
	SEMI-FIXED RESISTOR		
VR1	EVND4AA00B24	20KΩ B, DRV Bias	1
	RESISTORS		
R1	ERDS2TJ333	33KΩ	1
R2	ERDS2TJ682	6.8KΩ	1
R3, 4	ERDS2TJ473	47KΩ	2
R5	ERDS2TJ393	39KΩ	1
R6, 7	ERDS2TJ103	10KΩ	2
R8	ERDS2TJ473	47KΩ	1
R9	ERDS2TJ152	1.5KΩ	1
R10	ERDS2TJ563	56KΩ	1
R11	ERDS2TJ183	18KΩ	1
R12, 13	ERDS2TJ823	82KΩ	2
R14	ERDS2TJ153	15KΩ	1
R15	ERDS2TJ103	10KΩ	1
R16	ERDS2TJ472	4.7KΩ	1
R17	ERDS2TJ153	15KΩ	1
R18	ERDS2TJ103	10KΩ	1
R19	ERDS2TJ472	4.7KΩ	1
R20	ERDS2TJ682	6.8KΩ	1
R21~23	ERDS2TJ473	47KΩ	3
R24	ERDS2TJ682	6.8KΩ	1
R25~27	ERDS2TJ473	47KΩ	3
R36, 37	ERDS2TJ331	330Ω	2
R38	ERDS2TJ102	1KΩ	1
R39	ERDS2TJ221	220Ω	1
R40, 41	ERDS2TJ473	47KΩ	2
R44, 45	ERDS2TJ472	4.7KΩ	2
R46, 47	ERDS2TJ221	220Ω	2
R50~52 ⚠	ERD2FCJ4R7	4.7Ω, 1/4W, Fuse Type	3
R53, 54 ⚠	ERD2FCG100	10Ω, 1/4W, Fuse Type	2
R55	ERDS2TJ105	1MΩ	1
R58, 59	ERDS2TJ101	100Ω	2
R62~66	ERDS2TJ152	1.5KΩ	5
R68~70	ERDS2TJ472	4.7KΩ	3
R71	ERDS2TJ225	2.2MΩ	1
R72	ERDS2TJ332	3.3KΩ	1
R73, 74	ERDS2TJ225	2.2MΩ	2
	CAPACITORS		
C1	ECQB1H153JZ	0.015μF	1
C2	ECQG1H682KZ	0.0068μF	1
C3, 4	ECCR1H471J	470pF	2
C5	ECCR1H101J	100pF	1
C6	ECEA1HKA010	1μF, 50V	1
C8	ECEA1HKA010	1μF, 50V	1
C9	ECQG1H152KZ	0.0015μF	1
C10	ECCR1H151J	150pF	1
C11	ECEA1HKA010	1μF, 50V	1
C12	ECQG1H332KZ	0.0033μF	1

Ref. No.	Part No.	Description	Per/Set
C13	ECQG1H472KZ	0.0047μF	1
C14, 15	ECCR1H471J	470pF	2
C16	ECCR1H101J	100pF	1
C17	ECEA1HKA010	1μF, 50V	1
C18	ECQG1H332KZ	0.0033μF	1
C19	ECQG1H472KZ	0.0047μF	1
C20, 21	ECCR1H471J	470pF	2
C22	ECCR1H101J	100pF	1
C31, 32	ECEA1HKA010	1μF, 50V	2
C33	ECEA1HKAR22	0.22μF, 50V	1
C34	ECQB1H103JZ	0.01μF	1
C35	ECEA1HKAR22	0.22μF, 50V	1
C36	ECQB1H103JZ	0.01μF	1
C37	ECQV1H473JZ	0.047μF	1
C38	ECQV1H104JZ	0.1μF	1
C39	ECQB1H103JZ	0.01μF	1
C40	ECQG1H332KZ	0.0033μF	1
C41	ECEA1CKA470	47μF, 16V	1
C42	ECEA1CKA100	10μF, 16V	1
C43	ECEA1CKA470	47μF, 16V	1
C50~52	ECEA0JKA101	100μF, 6.3V	3
C53, 54	ECEA0JKS331	330μF, 6.3V	2
C55, 56	ECEA1CKA101	100μF, 16V	2
C57	ECCR1H101J	100pF	1
C58, 59	ECCR1H100J	10pF	2
C60	ECKR1E473ZV	0.047μF	1
C62, 63	ECKR1E473ZV	0.047μF	2
C66	ECCR1H470J	47pF	1
C67	ECRR1H104ZF	0.1μF	1
C68	ECEA1HKN010	1μF, 50V	1
C69	ECEA1HKA010	1μF, 50V	1
C70	ECRR1H104ZF	0.1μF	1

PKB PEDAL KEYBOARD CIRCUIT

Ref. No.	Part No.	Description	Per/Set
	INTEGRATED CIRCUITS		
IC1	MN1280R	Reset IC	1
○ IC2	D78C11AWF03	Microcomputer	1
	OSCILLATOR		
X1	SVQGA15MX001	15MHz, Ceramic Oscillator	1
	COMPONENT COMBINATIONS		
Z1~3	EXBPI8332JM	3.3KΩ×8	3
	SWITCHES		
○ S1~14	QSPG1001AA	Rubber Switch (5pcs. on one)	3
	RESISTORS		
R1	ERDS2TJ102	1KΩ	1
R10	ERDS2TJ103	10KΩ	1
R11, 12	ERDS2TJ472	4.7KΩ	2
R13, 14 ⚠	ERD2FCG220	22Ω, 1/4W, Fuse Type	2
R15, 16	ERDS2TJ103	10KΩ	2
R17	ERDS2TJ101	100Ω	1
R18	ERDS2TJ472	4.7KΩ	1
R19~21	ERDS2TJ103	10KΩ	3
R22 ⚠	ERD2FCG101	100Ω, 1/4W, Fuse Type	1

	Ref. No.	Part No.	Description	Per/Set
	R23	ERDS2TJ184	180KΩ	1
	CAPACITORS			
	C1	ECQV1H104JZ	0.1μF	1
	C2, 3	ECCR1H220J	22pF	2
	C4	ECEA0JKA101	100μF, 6.3V	1
	C5	ECQV1H104JZ	0.1μF	1
	C6	ECEA1CKA470	47μF, 16V	1

EXP EXPRESSION CIRCUIT

	Ref. No.	Part No.	Description	Per/Set
	CDS			
	CS1	SVEG5	Light Sensitive Device	1

ACP AC POWER SUPPLY CIRCUIT

	Ref. No.	Part No.	Description	Per/Set
	LINE FILTER			
	L1 ⚠	SLTGLF4	Line Filter	1
	SWITCH			
	S1 [EK] [XR] ⚠ [XL] [XS] [XD] [X]	ESE37209	Voltage Selector, [EK], [XR], [XL], [XS], [XD], [X] only	1
	FUSES			
	F1 [M] [XM] ⚠ [MC]	XBA1C50NU100	5A, 125V, [M], [XM], [MC] only	1
	F1 [N] ⚠	XBA1C31NS5	3.15A, 125V, [N] only	1
	F1 } [EK] [XR] ⚠ [XL] [XS]	XBA2C25TB0	T2.5A, 250V } [EK], [XR], [XL], [XS], [XD], [X] only	1
	F2 } [XD] [X] ⚠	XBA2C12TB0	T1.25A, 250V }	1
	F2 ⚠	XBA2C12TB0	T1.25A, 250V, Other areas	1
	CAPACITORS			
	C1 ⚠	ECKCVA1472MF	4700pF, Line-Capacitor	1
	C2 ⚠	ECQU2A104MN	0.1μF, 250V, Across-the Line Capacitor	1

PSS SUB POWER SUPPLY CIRCUIT

	Ref. No.	Part No.	Description	Per/Set
	INTEGRATED CIRCUIT			
	IC1	SVIGM5F7812	Voltage Regulator	1
	TRANSISTORS			
	Q1, 2	2SD1266		2
S	Q3, 5	2SC2320LFG	2SC1310FG (SUB. Part)	2
	Q4, 7	2SJ105GR	FET	2
S	Q6, 8	2SA1015-GR	2SA933STRS (SUB. Part)	2

	Ref. No.	Part No.	Description	Per/Set
	Q9	2SB941		1
	DIODES			
	D1, 2 ⚠	SVDGGP20GL	Rectifier	2
	D5, 6, 9, 10 ⚠	SVDGERA1502Y	Rectifier	4
	D7, 8	MA4200	Zener, 20V	2
	D11	MA165TA5		1
	RELAY			
○	RL1	QSYGR3211737	Relay	1
	FUSES			
	F1, 2 [M] ⚠ [XM] [MC]	XBA1C31NU100	3.15A, 125V, [M], [XM], [MC] only	2
	RESISTORS			
	R1, 2 ⚠	ERX2ANJP1R0S	1Ω, 2W, Flame-Proof	2
	R3	ERDS2TJ471	470Ω	1
	R4	ERDS2TJ822	8.2KΩ	1
	R5	ERDS2TJ223	22KΩ	1
	R6	ERDS2TJ103	10KΩ	1
	R7	ERDS2TJ471	470Ω	1
	R8 ⚠	ERX1ANJP1R0S	1Ω, 1W, Flame-Proof	1
	R9	ERDS2TJ223	22KΩ	1
	CAPACITORS			
	C1	ECEA1VU332	3300μF, 35V	1
	C2	ECEA1VU222	2200μF, 35V	1
	C3~6	ECEA1HKA010	1μF, 50V	4
	C7	ECEA1EU101	100μF, 25V	1
	C8	ECEA1HKA010	1μF, 50V	1

PSM MAIN POWER SUPPLY CIRCUIT

	Ref. No.	Part No.	Description	Per/Set
	INTEGRATED CIRCUITS			
	IC1	SVIGM5291P	Switching Regulator	1
	IC2	SVIGM5F7815	Voltage Regulator	1
	IC3	SVIGM5F7915	Voltage Regulator	1
	TRANSISTORS			
	Q1	2SB953AQP		1
S	Q2	2SA1015-GR	2SA933STRS (SUB. Part)	1
S	Q3	2SC2320LFG	2SC1310FG (SUB. Part)	1
	DIODES			
	D1, 4	MA165TA5		2
	D2	SVDGERC9102		1
	D3	MA2062LF	Zener, 6.2V	1
	COIL			
	L1	SLCG3A121T	Coil	1
	RESISTORS			
	R1 ⚠	ERX1ANJPR22S	0.22Ω, 1W, Flame-Proof	1
	R2	ERDS2TJ471	470Ω	1
	R3	ERDS2TJ152	1.5KΩ	1

Ref. No.	Part No.	Description	Per/Set
R4	ERDS2TJ103	10KΩ	1
R5	ER0S2CKF1001	1KΩ, ±1%	1
R6	ER0S2CKF3571	3.57KΩ, ±1%	1
R7 ⚠	ERG1ANJP221S	220Ω, 1W, Flame-Proof	1
R8, 9	ERDS2TJ101	100Ω	2
R10	ERDS2TJ223	22KΩ	1
R11	ERDS2TJ473	47KΩ	1
R12	ERDS2TJ103	10KΩ	1
R14	ERDS2TJ103	10KΩ	1
R15	ERDS2TJ223	22KΩ	1
R16	ERDS2TJ103	10KΩ	1
R17	ERDS2TJ102	1KΩ	1
CAPACITORS			
C1	ECEA1EU471	470µF, 25V	1
C2	ECCR1H471J	470pF	1
C3	ECEA1HKA2R2	2.2µF, 50V	1
C4, 5	ECEA0JU222	2200µF, 6.3V	2
C6	ECKR1E473ZV	0.047µF	1
C7~10	ECEA1EKA470	47µF, 25V	4
C11	ECEA1CKA100	10µF, 16V	1

PA POWER AMPLIFIER CIRCUIT

Ref. No.	Part No.	Description	Per/Set
INTEGRATED CIRCUITS			
IC1	SVIGS4221M2M	Power Amplifier	1
DIODES			
D1, 2, 4, 5, ⚠ 8, 9, 11, 12	SVDGS3V20-15	Rectifier	8
RESISTORS			
R1	ERDS2TJ273	27KΩ	1
R2	ERDS2TJ153	15KΩ	1
R3	ERDS2TJ222	2.2KΩ	1
R4	ERDS2TJ393	39KΩ	1
R5	ERDS2TJ472	4.7KΩ	1
R6, 7	ERDS2TJ222	2.2KΩ	2
R8	ERDS2TJ224	220KΩ	1
R9	ERDS2TJ103	10KΩ	1
R11	ERDS2TJ681	680Ω	1
R12, 13	ERDS2TJ102	1KΩ	2
R14 ⚠	ERD50FJ4R7	4.7Ω, 1/2W, Flame-Proof	1
R15 ⚠	ERD2FCG101	100Ω, 1/4W, Fuse Type	1
R16 ⚠	ERD50FJ4R7	4.7Ω, 1/2W, Flame-Proof	1
R17, 18	ERDS2TJ222	2.2KΩ	2
R19	ERDS2TJ472	4.7KΩ	1
R20	ERDS2TJ393	39KΩ	1
R21	ERDS2TJ222	2.2KΩ	1
R23	ERDS2TJ153	15KΩ	1
R24	ERDS2TJ273	27KΩ	1
R40 ⚠	ERD2FCG101	100Ω, 1/4W, Fuse Type	1
R41 ⚠	ERD50FJ4R7	4.7Ω, 1/2W, Flame-Proof	1
CAPACITORS			
C1	ECEA1HKN010	1µF, 50V	1
C2	ECCR1H221J	220pF	1
C3	ECEA1EKA100	10µF, 25V	1
C4	ECEA1HU470	47µF, 50V	1

Ref. No.	Part No.	Description	Per/Set
C5	ECEA1HKA4R7	4.7µF, 50V	1
C6	ECQV1H104JZ	0.1µF	1
C7	ECEA1HU470	47µF, 50V	1
C9	ECEA1HU470	47µF, 50V	1
C10	ECEA1EKA100	10µF, 25V	1
C11	ECCR1H221J	220pF	1
C12	ECEA1HKN010	1µF, 50V	1
C13	ECES1HU472H	4700µF, 50V	1
C14, 15	ECEA50Y3R3	3.3µF, 50V	2
C22	ECEA1HU470	47µF, 50V	1
C23	ECQV1H104JZ	0.1µF	1
C29	ECES1HU472H	4700µF, 50V	1
C30 ⚠	ECQE2A104MW	0.1µF, 250V	1
○ C31, 32	ECEA50Y8R2	8.2µF, 50V	2

JACK JACK CIRCUIT

Ref. No.	Part No.	Description	Per/Set
INTEGRATED CIRCUIT			
IC1	SVIGM5218L	Operational Amplifier	1
JACKS			
JK1, 2	SJJG470A	Line Out (R, L)	1
JK3	SJJG210A	Microphone	1
JK4	SJJG100A	Headphones	1
VARIABLE RESISTOR			
VR1	EWHD5A576A54	50KΩ A, Mic Volume	1
RESISTORS			
R1, 2 ⚠	ERD2FCG100	10Ω, 1/4W, Fuse Type	2
R3	ERDS2TJ222	2.2KΩ	1
R4	ERDS2TJ472	4.7KΩ	1
R5	ERDS2TJ102	1KΩ	1
R6	ERDS2TJ222	2.2KΩ	1
R7	ERDS2TJ102	1KΩ	1
R8	ERDS2TJ472	4.7KΩ	1
R9	ERDS2TJ224	220KΩ	1
R10	ERDS2TJ103	10KΩ	1
R11	ERDS2TJ224	220KΩ	1
R12	ERDS2TJ103	10KΩ	1
R13	ERDS2TJ154	150KΩ	1
R14	ERDS2TJ102	1KΩ	1
R15, 16 ⚠	ERG1ANJP680S	68Ω, 1W, Flame-Proof	2
R18, 19	ERDS2TJ332	3.3KΩ	2
CAPACITORS			
C1, 2	ECEA1EKA470	47µF, 25V	2
C3, 8	ECEA1HKN010	1µF, 50V	2
C4, 5	ECCR1H101J	100pF	2
C6, 7	ECKR1E473ZV	0.047µF	2

MVOL MAIN VOLUME CIRCUIT

Ref. No.	Part No.	Description	Per/Set
VARIABLE RESISTOR			
VR1	EVD06510B24G	20KΩ B, Main Volume	1

Ref. No.	Part No.	Description	Per/Set
CAPACITOR			
C1	ECKR1E473ZV	0.047μF	1

CPL UPPER CONTROL PANEL LEFT CIRCUIT

Ref. No.	Part No.	Description	Per/Set
INTEGRATED CIRCUITS			
IC1	SVIGM603A121	Gate Array	1
IC2~4	SVIGM74LS07	Hex Buffers (O.C.)	3
TRANSISTORS			
Q1~4	2SA830SB		4
DIODES			
D1~16, 19~64	MA165TA5		61
D66~78, 80, 83~91, 93, 103, 104, 119~123	LN282R	LED (Red)	31
D79, 92, 94~102, 106~118	LN382G	LED (Green)	24
COMPONENT COMBINATION			
Z1	EXBPI8103JM	10KΩ×8	1
SWITCHES			
S2~16, 19~64	SSHG1045A	Push Switch	60
RESISTORS			
R10~13	ERDS2TJ103	10KΩ	4
R14	ERDS2TJ184	180KΩ	1
R15	ERDS2TJ221	220Ω	1
R16	ERDS2TJ103	10KΩ	1
R17~21	ERDS2TJ152	1.5KΩ	5
R22~38	ERDS2TJ470	47Ω	17
CAPACITORS			
C2	ECRR1H104ZF	0.1μF	1
C3	ECEA0JKA101	100μF, 6.3V	1
C4	ECCR1H101J	100pF	1
C5	ECEA1HKA010	1μF, 50V	1
C6~8	ECRR1H104ZF	0.1μF	3
C9	ECCR1H331J	330pF	1

ESW ENCODER SWITCH

Ref. No.	Part No.	Description	Per/Set
SWITCH			
S1	SSRG110A	Encoder Switch	1

CPSL LOWER CONTROL PANEL LEFT CIRCUIT

Ref. No.	Part No.	Description	Per/Set
INTEGRATED CIRCUITS			
IC1	SVIGM603A121	Gate Array	1
IC2~4	SVIGM74LS07	Hex Buffers (O.C.)	3
TRANSISTORS			
Q1~5	2SA830SB		5
DIODES			
D1~76, 79~82, 151	MA165TA5		60
D83~90, 114~145	SEL2210SM	LED (Red)	40
D99~102, 104, 105	LN282R	LED (Red)	5
D103, 147, 149, 150	LN382G	LED (Green)	4
COMPONENT COMBINATION			
Z1	EXBPI8103JM	10KΩ×8	1
SWITCHES			
S2~76, 79~82, 151	SSHG1045A	Push Switch	59
RESISTORS			
R10~13	ERDS2TJ103	10KΩ	4
R14	ERDS2TJ184	180KΩ	1
R15	ERDS2TJ221	220Ω	1
R16	ERDS2TJ103	10KΩ	1
R17~21	ERDS2TJ152	1.5KΩ	5
R22, 23, 26~29, 32~40	ERDS2TJ470	47Ω	15
CAPACITORS			
C3	ECEA0JKA101	100μF, 6.3V	1
C4	ECCR1H101J	100pF	1
C5	ECEA1HKA010	1μF, 50V	1
C6~8	ECRR1H104ZF	0.1μF	3
C9	ECCR1H331J	330pF	1

CPC UPPER CONTROL PANEL CENTER CIRCUIT

Ref. No.	Part No.	Description	Per/Set
INTEGRATED CIRCUITS			
IC1	SVIGM603A121	Gate Array	1
IC2	SVIGM74LS07	Hex Buffers (O.C.)	1
TRANSISTORS			
Q1~6	2SA830SB		6
Q7	2SC2320LFG	2SC1310FG (SUB. Part)	1
DIODES			
D1~62, 87	MA165TA5		57
D63~73, 76~79, 85, 86	LN282R	LED (Red)	16

Ref. No.	Part No.	Description	Per/Set
D74, 80~84	LN382G	LED (Green)	6
COMPONENT COMBINATION			
Z1	EXBPI8103JM	10KΩ×8	1
SWITCHES			
S2~62	SSHG1045A	Push Switch	59
VARIABLE RESISTOR			
○ VR1	QRVG20N01B14	10KΩ B, LCD Contrast	1
RESISTORS			
R10~13	ERDS2TJ103	10KΩ	4
R14	ERDS2TJ184	180KΩ	1
R15	ERDS2TJ221	220Ω	1
R16	ERDS2TJ103	10KΩ	1
R17~21	ERDS2TJ152	1.5KΩ	5
R26~29	ERDS2TJ470	47Ω	4
R32~35	ERDS2TJ470	47Ω	4
R37	ERDS2TJ225	2.2MΩ	1
R38	ERDS2TJ222	2.2KΩ	1
R42	ERDS2TJ105	1MΩ	1
R43	ERDS2TJ474	470KΩ	1
R44	ERDS2TJ155	1.5MΩ	1
CAPACITORS			
C2	ECRR1H104ZF	0.1μF	1
C3	ECEA0JKA101	100μF, 6.3V	1
C4	ECCR1H101J	100pF	1
C5	ECEA1HKA010	1μF, 50V	1
C6	ECRR1H104ZF	0.1μF	1
C7	ECEA1HKA2R2	2.2μF,50V	1

CPR UPPER CONTROL PANEL RIGHT CIRCUIT

Ref. No.	Part No.	Description	Per/Set
INTEGRATED CIRCUITS			
IC1	SVIGM603A121	Gate Array	1
IC2~5	SVIGM74LS07	Hex Buffers (O.C.)	4
TRANSISTORS			
Q1~4	2SA830SB		4
DIODES			
D1~81	MA165TA5		56
D86~107, 141~162	SEL2210SM	LED (Red)	36
D109~126, 136	LN282R	LED (Red)	15
D128~131	LN382G	LED (Green)	4
SWITCHES			
S3~83	SSHG1045A	Push Switch	55
RESISTORS			
R2~13	ERDS2TJ103	10KΩ	12
R14	ERDS2TJ184	180KΩ	1
R15	ERDS2TJ221	220Ω	1
R16	ERDS2TJ103	10KΩ	1
R17~21	ERDS2TJ152	1.5KΩ	5
R22~33, 36~43	ERDS2TJ470	47Ω	20
CAPACITORS			
C2	ECRR1H104ZF	0.1μF	1
C3	ECEA0JKA101	100μF, 6.3V	1
C4	ECCR1H101J	100pF	1
C5	ECEA1HKA010	1μF, 50V	1
C6~8	ECRR1H104ZF	0.1μF	3
C9	ECCR1H681J	680pF	1

■ WIRING PARTS

Ref. No.	Part No.	Description	Per/Set
○ W2, 8, 25	QEXG14003SSA	Connector with Wire	3
○ W3	QEXG04012SSA	Connector with Wire	1
○ W4	QEXG16003SSA	Connector with Wire	1
○ W6	QEXG14002SSA	Connector with Wire	1
W7	SWKG168SSA	Connector with Wire	1
○ W9	QEXG11001STA	Connector with Wire	1
○ W10	QEXG04003STA	Connector with Wire	1
○ W11	QEXG12002SSA	Connector with Wire	1
○ W12	QEXG03001STA	Connector with Wire	1
○ W13	QEXG09001ZA	Connector with Wire	1
○ W14	QEXG14001SSA	Connector with Wire	1
○ W15	QEXG04006LTA	Connector with Wire	1
○ W16	QEXG04007ZB	Connector with Wire	1
W17	SWKG08115SSA	Connector with Wire	1
○ W19	QEXG13001SSA	Connector with Wire	1
○ W20	QEXG16001STA	Connector with Wire	1
W23	SWKG08132SSA	Connector with Wire	1
W24	SWKG06117SSA	Connector with Wire	1
○ W26	QEXG13004ZA	Connector with Wire	1
W29	SWKG0712SSA	Connector with Wire	1
○ W30	QEXG13002SSA	Connector with Wire	1
○ W31	QEXG04010LSA	Connector with Wire	1
○ W32	QEXG12001SSA	Connector with Wire	1
○ W33	QEXG13003ZA	Connector with Wire	1
○ W34	QEXG03007ZA	Connector with Wire	1
○ W35	QEXG05005ZA	Connector with Wire	1
○ W36	QEXG10003ZA	Connector with Wire	1
○ W37	QEXG04005LSA	Connector with Wire	1
○ W38	QEXG03006SSA	Connector with Wire	1
○ W39	QEXG04013ZA	Connector with Wire	1
○ W40	QEXG05006SSA	Connector with Wire	1
○ W41	QEXG04019LTA	Connector with Wire	1
○ W42	QEXG04014SSA	Connector with Wire	1
W43	QEXG06001SSA	Connector with Wire	1

REPLACEMENT PARTS LIST……Cabinet and Chassis Parts

Notes:

1. Important safety notice
   Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
2. ○ mark are new parts.
3. For part No. with area mark, check the area when placing an order.
4. There are two identical models are available as SX-GN3 and SX-GN3K and all specifications are the same in both models except cabinet parts and panel parts. Identify an unit with model number which available on the name plate on the rear board and order correct parts.

SX-GN3K CABINET & CHASSIS PARTS

(SX-GN3K)

	Ref. No.	Part No.	Description	Per/Set
	POWER SWITCH			
○	S1 ⚠	QSPG1003AA	Power Switch	1
	SPEAKERS			
	SP1, 2	EAS20PL255C	20cm, 8Ω	2
	SP3, 4	EAS65PH31A	6.5cm, 8Ω	2
	SP5, 6	EAS15S06A	6×13cm, 16Ω	2
	TRANSFORMERS			
○	T1 [N] ⚠	QTPG1P001A	Power Transformer, [N] only	1
○	T1 ⚠	QTPG1P002A	Power Transformer, Others	1
○	T2 ⚠	QTPG1J001A	Power Transformer	1
	POWER CORD, PLUGS			
	PC1 [N] ⚠	SJAG11	AC Power Cord, [N] only	1
	PC1 [XL] [XR] ⚠	SJAG23	AC Power Cord, [XL], [XR] only	1
	PC1 [EK] [XS] [XD] ⚠	SJAG25	AC Power Cord, [EK], [XS], [XD] only	1
	PC1 ⚠	SJAG24	AC Power Cord, Others	1
	PC2 [X] ⚠	SJP5213-1	Attachment Plug, [X] only	1
	PC3 [XD] ⚠	SJPG1350A	Power Plug, [XD] only	1
	POWER INDICATOR			
	D1	LN29RP	LED, Power Indicator	1
	CABINET AND OTHERS			
○	1	QGAG2002AA	Clear Panel, Music Rack	1
○	4	QKQGA001DA	Top Cover Ass'y	1
○	4-1	QGKG0005BA	Ornament (Left)	1
○	4-2	QGKG0006BA	Ornament (Right)	1
○	4-3	QGKG0001BA	Ornament (Front)	1
	4-4	SGBG150A	Technics Badge	1
○	5	QKQGF001AA	Sliding Cover Ass'y	1
○	5-1	QGKG0010AA	Ornament	1
	5-2	SBEG30A	Lock	1
	5-3	SBEG40C	Staple	1
	5-4	SBHG6007-1	Hinge	3
	5-5	SHRG9930A	Catch, Guide Rail	10
○	5-6	QMFG1001AA	Felt	2
	5-7	SHSG119	Felt	6
	6	SBEG60A	Key	1
○	7	QGKG0002AA	Ornament	1
	8	SHSG1830A	Felt	2
○	11	QGPG0001CD	Upper Control Panel	1
○	12	QKWG001AC	Display Cover Panel	1
○	13	QGPG0002CA	Lower Control Panel, Left	1
○	14 [N]	QGPG0003AA	Lower Control Panel, Right	1
○	14	QGPG0003AD	Lower Control Panel, Right	1
○	15	QMFG4006BB	Felt	4
○	16	QMFG4004BB	Felt	1
○	17	QMFG4005BB	Felt	2
○	18	QMFG4011AA	Felt	1
○	19	SHSG5810A	Felt	1
○	20	QMFG4007BB	Felt	1
○	21	QMFG4001AA	Felt	1
○	22	QMFG4002AA	Felt	1
○	23	SBNG4060B	Knob, Tempo/Program	1
	24	SBNG7031A	Knob, Main Volume	1
	25	SBCG110B	Button, Power Switch	1
	26	SHRG9920A	Spacer	1
○	27	QGKG0007AA	Ornament, Keyboard	1
○	28	QGKG0008BA	Jack Panel	1
	29	SUWG3000A	Bracket	2
	30	SUWG3010A	Bracket	2
	31	SUWG3020A	Bracket	2
	32	SUWG3031A	Bracket	2
○	33	QEXG13004ZA	Cable with Bracket	1
○	34	QEXG13003ZA	Cable with Bracket	1
	34-1	SHRG1160A	Bushing	2
○	35	QKSGE002AA	Front Panel	1
	36	SHSG3050A	Felt	1
	37	SMKG1583A	Jack Panel	1
	38	SBNG4010A	Knob, Mic Volume	1
	39	SHR401-1	Latch	2
	40	SXVG3031B	Knee Lever Ass'y	1
	40-1	SSLG1005A	Leaf Switch	1
	40-2	SSHG1020A	Push Switch	1
	41	SKLA7-2	Foot	1
	42	SHRG2120C	Foot	4
	43	SKEG7640A	Guide Rail	1
	44	SKEG7650A	Guide Rail	1
	45	SKEG7660A	Guide Rail	1
	46	SKEG7670A	Guide Rail	1
	47	SHSG3571A	Felt	2
○	48	QYPG1001AA	Cover	1
○	49	QMAG0008AA	Bracket	1
	50	SHRG1110A	Cord Clamper	1
	51	SHRG1120A	Cord Clamper	1
	52	SXVG5140A	Exprssion Pedal Ass'y	1
	52-1	XAMR55P	Lamp	1
	52-2	RJS205ZA	Lamp Socket	1
	52-3	SHGG908	Lamp Holding Rubber	1
	52-4	SSHG14	Foot Switch	1
○	53	QKQGD001AA	Rear Board (Upper)	1
○	54 [EK] [X] [XL] [XR] [XS] [XD]	QKUG1004BA	Rear Board (Lower), [EK], [X], [XL], [XR], [XS], [XD] only	1
○	54	QKUG1004AA	Rear Board (Lower), Others	1
○	55	QQLG005AA	Label (VOLT ADJ.)	1
	56	SHGG8510A	Spacer	1
	57	SHRG1030A	Cord Band	1
	58	SHRGA9060A	Cord Clamper	2
	59	SUWG219	Binder	7
	60	SHRG9620A	Cord Clamper	1

(SX-GN3K)

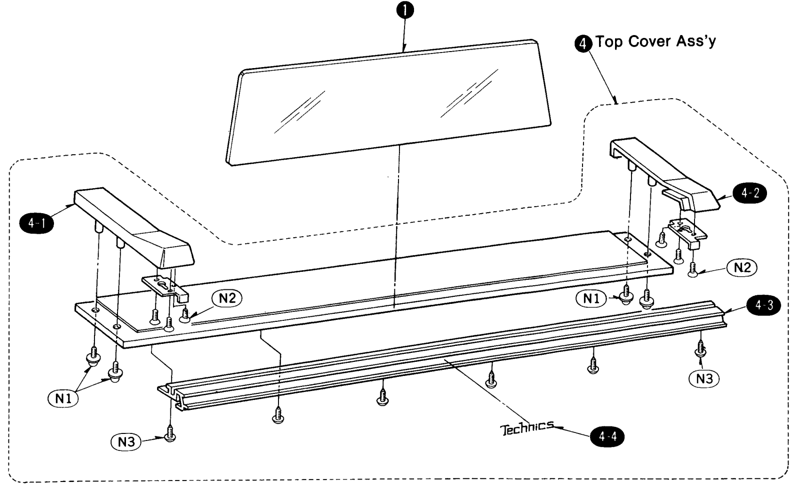
	Ref. No.	Part No.	Description	Per/Set
	PEDAL KEYBOARD			
○	61	STBG1164C	Long Key (Gray)	8
	62	STBG2052A	Short Key (Black)	5
	63 N	STBG2310A	Full-Bass Pedal	1
	64 N	SGXG1390A	Ornament	1
○	66	QMRG2005AA	Insulator	1
	67	SHSG1600B	Felt	1
	68	SHSG1460A	Felt	14
	69	SUSG180A	Spring	14
	70	SHGG8130A	Rubber	14
	71	SHRG9240A	Spacer	14
	MANUAL KEYBOARD			
○	72	STBGA1160A	White Key (C & F Keys)	8
○	73	STBGA1170A	White Key (D Key)	4
○	74	STBGA1180A	White Key (E & B Keys)	8
○	75	STBGA1190A	White Key (G Key)	4
○	76	STBGA1200A	White Key (A Key)	4
○	77	STBGA1210A	White Key (Top Octave C Key)	1
○	78	STBG2930A	Black Key	20
○	79	STBG9420A	Key Support	3
○	80	STBG9440A	Key Support	1
○	81	QMBG001BA	Spring	49
	82	SHGG9050A	Key Guide Rubber	49
○	83	QMFG1005AA	Felt	1
○	84	STBG9410A	P.C.B. Holder	3
○	85	STBG9430A	P.C.B. Holder	1
○	86	SSPG1A	Actuater	3
○	87	SSPG2A	Actuater	1
○	88	QMFG1006AB	Felt	1
○	89	SHRGA5810A	Membrane Sheet	3
○	90	SHRGA5820A	Membrane Sheet	1
	BENCH			
	91	SKZGC560A	Top Cover Ass'y	1
	92	SKZGC471B	Leg	4
	93	SBEG190A	Spanner	1
	SCREW & WASHERS			
	N1	SNEG1890A	Screw with Washer	4
	N2	XTS4+12A	Screw	26
	N3	XTB35+12A	Screw	30
	N4	XTWSG2	Screw with Washer	12
	N5	SNEG2400A	Screw with Washer	2
	N6	XTB4+12A	Screw	24
	N7	XTW3+10Q	Screw	63
	N8	XNS9	Nut	1
	N9	XYN5+C10	Screw with Washer	6
	N10	SNEG740A	Screw	2
	N11	XTS3+6B	Screw	2
	N12	XYN4+F40	Screw with Washer	1
	N13	XTT4+16AFZ	Screw	2
	N14	XTB4+14A	Screw	2
	N15	XTW3+20Q	Screw	4
	N16	XTB3+5C	Screw	15
	N17	XTW3+8JFZ	Screw	1
	N18	XTT4+10AFZ	Screw	3
	N19	XTS35+12A	Screw	19
	N20	XTS3+12A	Screw	3
	N21	XTS3+10AFVC	Screw	6
	N22	XTW3+10JFZ	Screw	5
	N23	XTT35+10AFVC	Screw	12
	N24	XTT4+16AFZ	Screw	6
	N25	XTT4+30A	Screw	2
	N26	XTB35+12A	Screw	4
	N27	SNEG2270A	Screw with Washer	4
	N28	SNEG770A	Washer	2
	N29	SNE4021-1	Nut	1
	N30	XNS12FZ	Nut	2
	N31	XTN2+10FFX	Screw	1
	N32	XYN3+C12	Screw with Washer	3
	N33	XYN3+F16FZ	Screw with Washer	2
	N34	XTB3+8BFVC	Screw	2
	N35	XTB35+20A	Screw	14
	N36	XYN4+F20FZ	Screw with Washer	10
	N38	XYN3+F20FZ	Screw with Washer	2
	N39	XYN5+C25FZ	Screw with Washer	9
	N40	SNEG150B	Washer	9
	N41	XTB35+25A	Screw	8
	N42	XTB35+8A	Screw	1
	N43	XTB3+6B	Screw	11
	N44	XTT4+14A	Screw	18
	N45	XNG5BS	Nut	14
	N46	SNEG360A	Bolt	14
	N47	XTV3+10G	Screw	1
	N48	SNE499-1	Nut	8
	N49	XTN26+6B	Screw	1
	N50	XTV3+10C	Screw	1
	N51	XYN4+F30	Screw with Washer	4
	N52	XTT4+30AFZ	Screw	19
	N53	XYN4+F10FZ	Screw with Washer	4
	N54	XYN5+F30	Screw with Washer	3
	N55	XTB4+8B	Screw	3
	N57	XNH10G	Nut	4
	N58	XWB10B	Washer	4
	N59	XTW3+6J	Screw	12
	N60	XTW3+10JFVC	Screw	28
	N61	XTB35+14AFZ	Screw	2

SX-GN3K

EXPLODED VIEWS OF CABINET

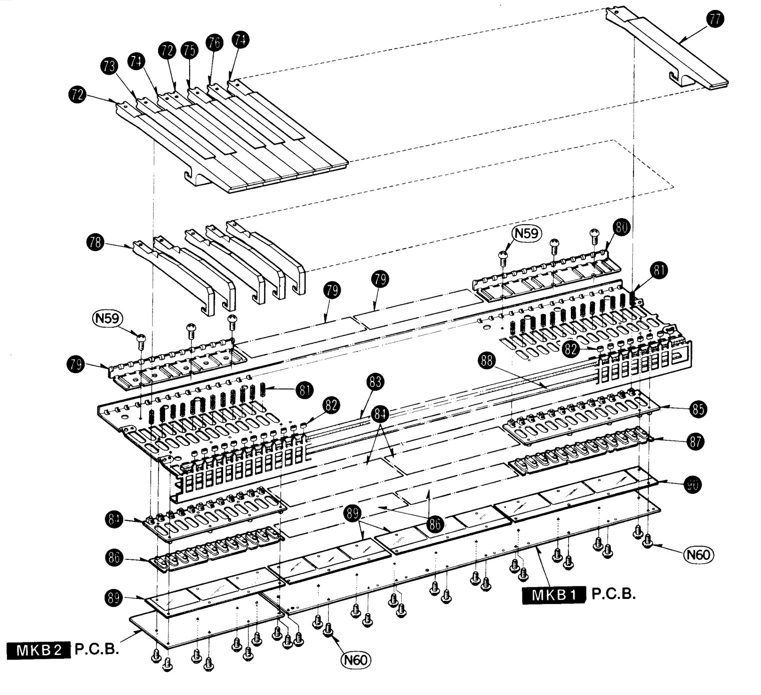
Note: The cabinet assembly parts will not be supplied as repair parts.

■ TOP COVER AND MUSIC RACK



1
4 Top Cover Ass'y
4-1
4-2
4-3
4-4
Technics
N1
N2
N3

■ MANUAL KEYBOARD



72
73
74
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81
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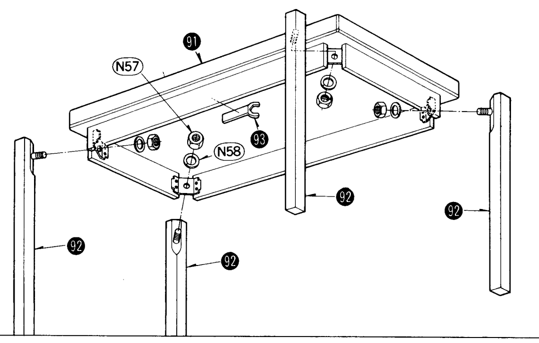
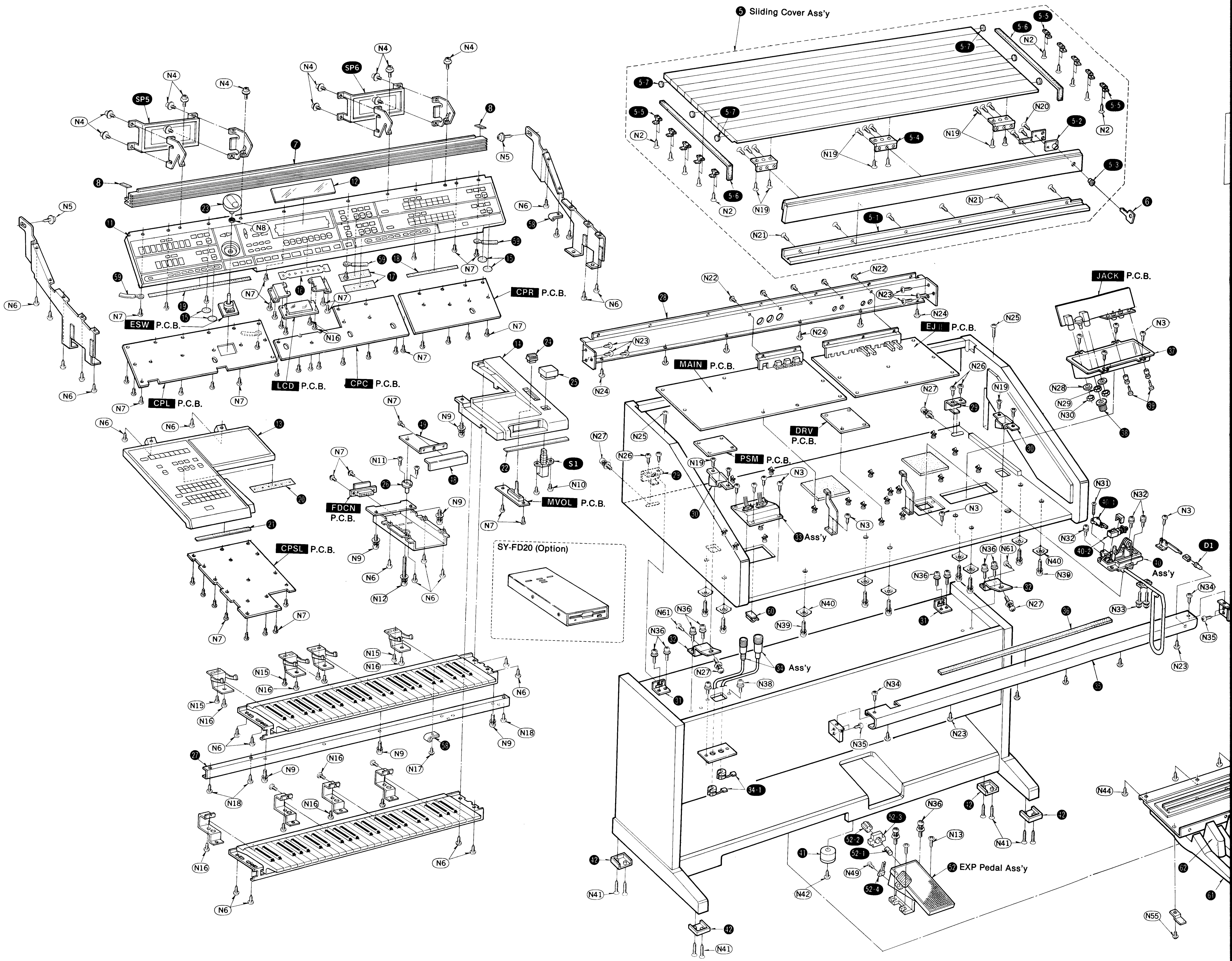
89
N59
N60
MKB1 P.C.B.
MKB2 P.C.B.

■ BENCH



91
92
93
N57
N58



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A
B
C
D
E
F
5 Sliding Cover Ass'y
5-1
5-2
5-3
5-4
5-5
5-6
5-7
6
7
8
SP5
SP6
ESW P.C.B.
CPL P.C.B.
LCD P.C.B.
CPC P.C.B.
CPR P.C.B.
CPSL P.C.B.
FDCN P.C.B.
MVOL P.C.B.
S1
MAIN P.C.B.
EJ P.C.B.
DRV P.C.B.
PSM P.C.B.
JACK P.C.B.
SY-FD20 (Option)
33 Ass'y
34 Ass'y
34-1
40 Ass'y
40-2
D1
52 EXP Pedal Ass'y
52-1
52-2
52-3
52-4
N4
N5
N6
N7
N8
N9
N10
N11
N12
N13
N15
N16
N17
N18
N19
N20
N21
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N25
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N27
N28
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N32
N33
N34
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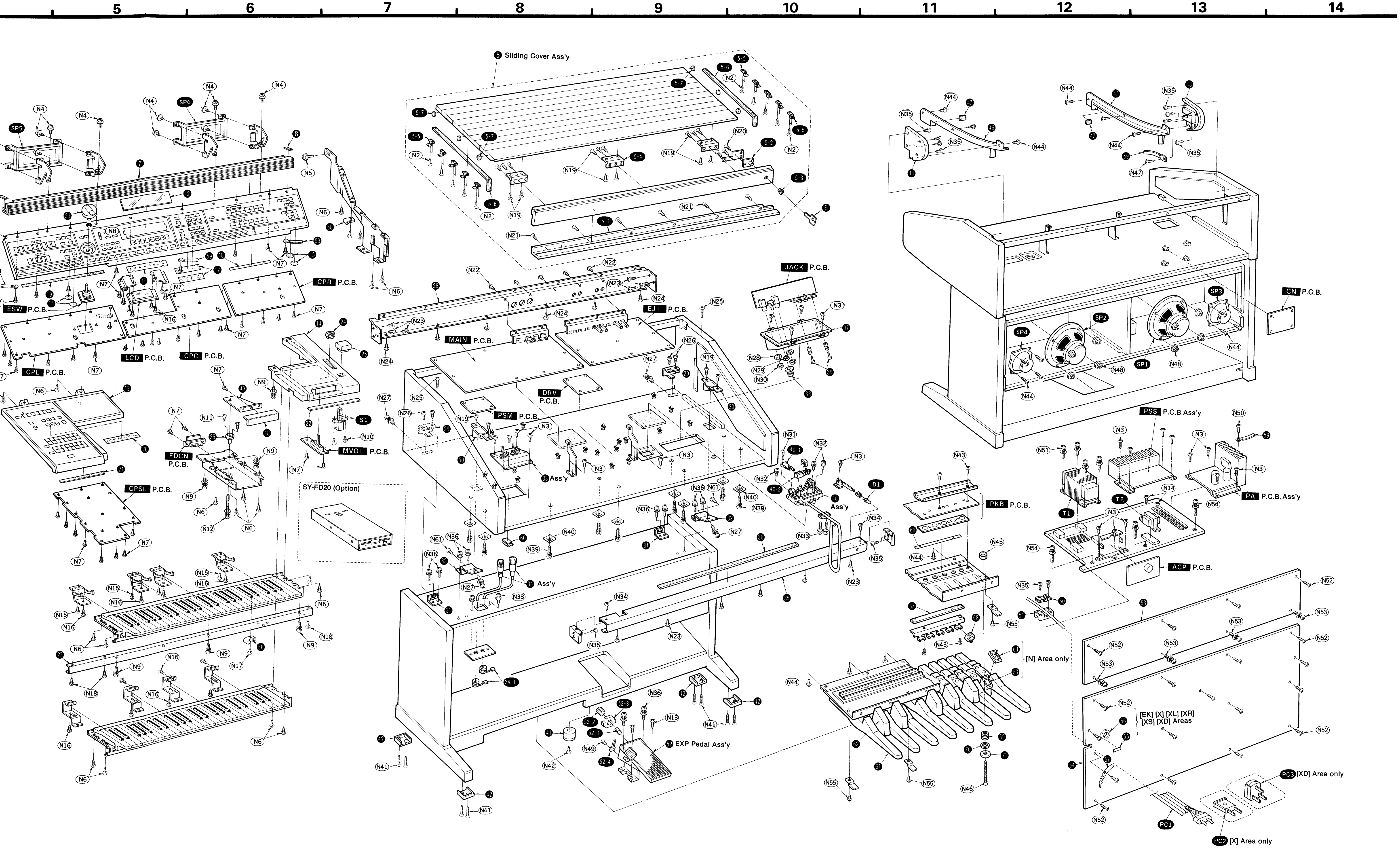
N39
N40
N41
N42
N44
N49
N55
N61

Note: The cabinet assembly parts will not be supplied as repair parts.


5
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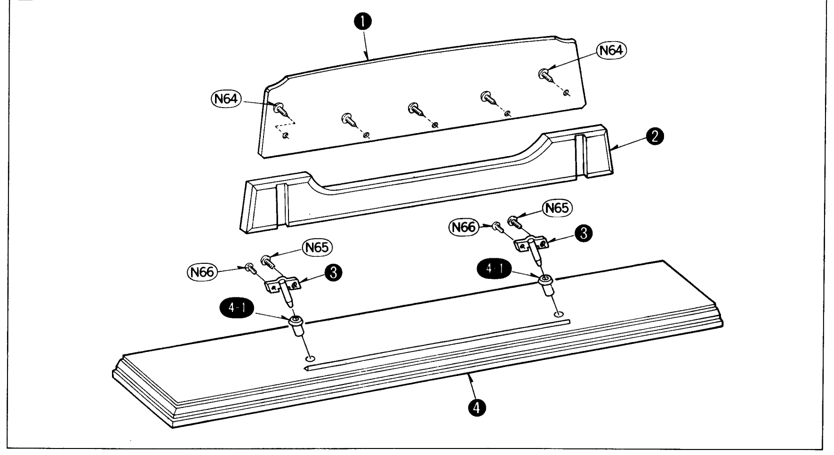
13
14
5 Sliding Cover Ass'y
SP5
SP6
ESW P.C.B.
LCD P.C.B.
CPC P.C.B.
CPR P.C.B.
CPL P.C.B.
FDCN P.C.B.
CPSL P.C.B.
MAIN P.C.B.
EJ II P.C.B.
DRV P.C.B.
PSM P.C.B.
MVOL P.C.B.
S1
JACK P.C.B.
33 Ass'y
34 Ass'y
40 Ass'y
D1
SY-FD20 (Option)
CN P.C.B.
SP1
SP2
SP3
SP4
PSS P.C.B.Ass'y
PA P.C.B.Ass'y
T1
T2
ACP P.C.B.
PKB P.C.B.
[N] Area only
52 EXP Pedal Ass'y
[EK] [X] [XL] [XR]
[XS] [XD] Areas
PC1
PC2 [X] Area only
PC3 [XD] Area only

SX-GN3

EXPLODED VIEWS OF CABINET

Note: The cabinet assembly parts will not be supplied as repair parts.

■ TOP COVER AND MUSIC RACK


1
N64
N64
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N66
N65
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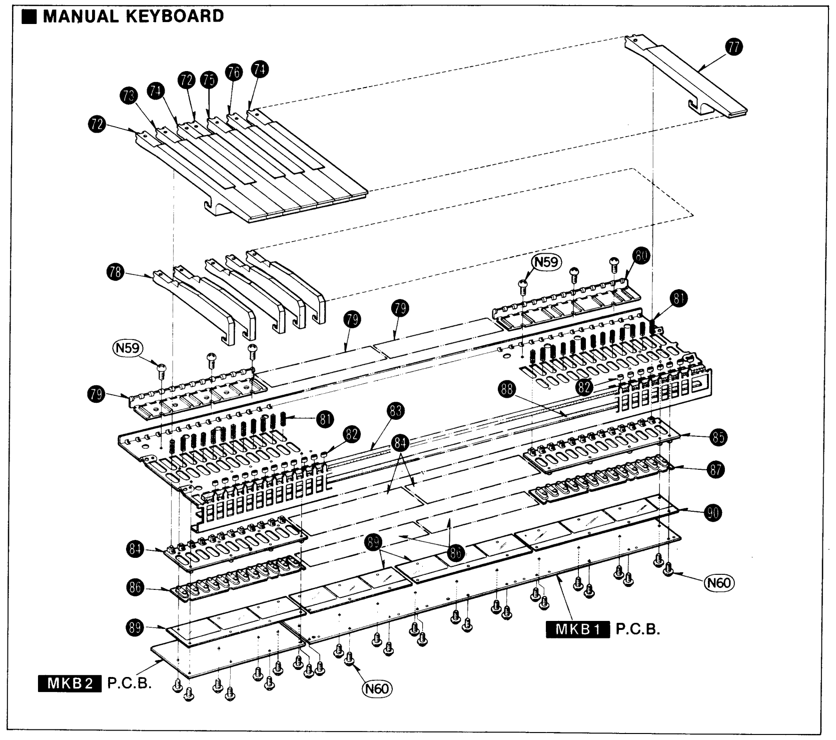
N66
N65
3
4-1
4-1
4

■ MANUAL KEYBOARD


77
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N59
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N59
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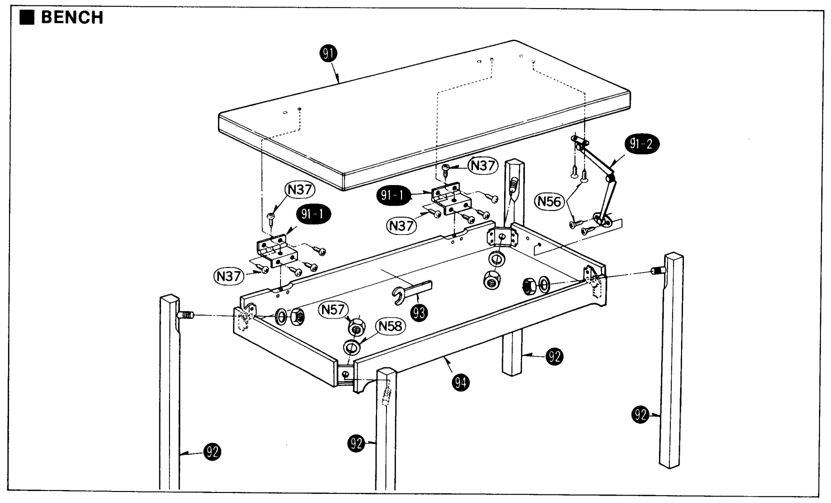
N60
MKB1 P.C.B.
MKB2 P.C.B.
N60

■ BENCH


91
91-2
N37
N37
91-1
91-1
N37
N56
N37
N57
N58
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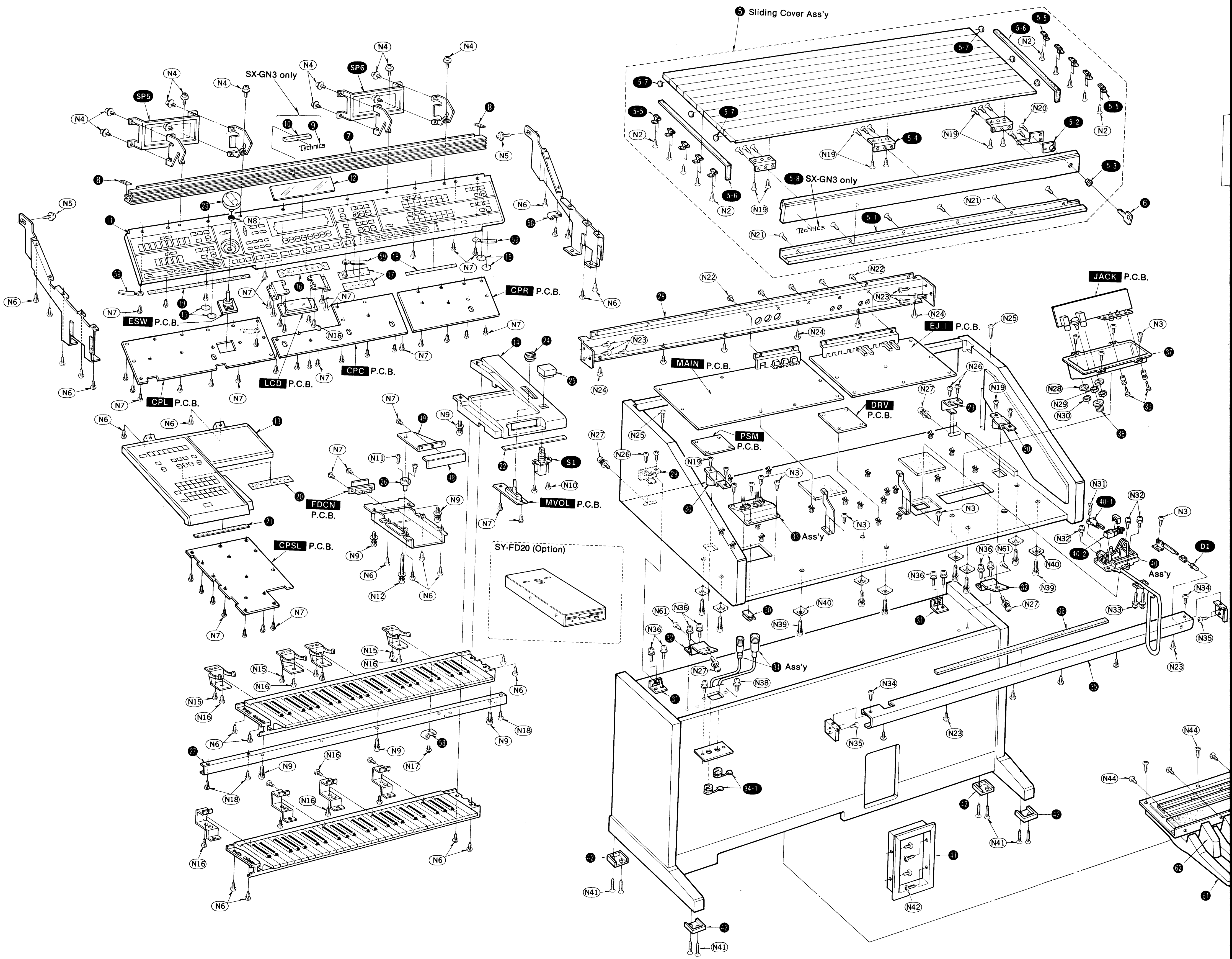
92
92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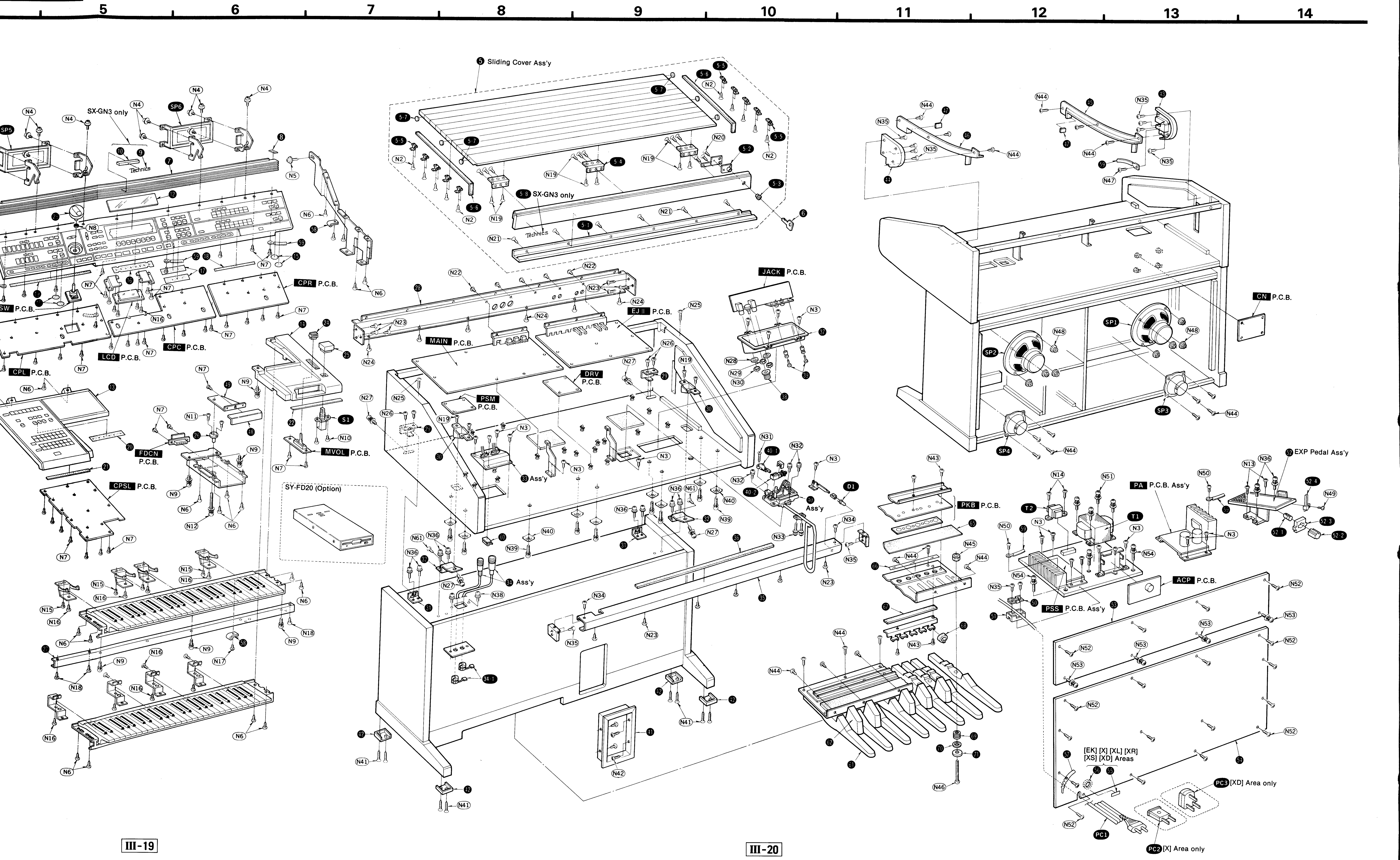
A
B
C
D
E
F
SX-GN3 only
SP5
SP6
N4
N5
N6
N7
N8
Technics
ESW P.C.B.
CPL P.C.B.
LCD P.C.B.
CPC P.C.B.
CPR P.C.B.
FDCN P.C.B.
CPSL P.C.B.
MVOL P.C.B.
S1
N9
N10
N11
N12
N15
N16
N17
N18
SY-FD20 (Option)
5 Sliding Cover Ass'y
5-1
5-2
5-3
5-4
5-5
5-6
5-7
5-8 SX-GN3 only
N2
N19
N20
N21
N22
N23
N24
N25
N26
N27
N28
N29
N30
N31
N32
N33
N34
N35
N36
N38
N39
N40
N41
N42
N44
N61
MAIN P.C.B.
EJ II P.C.B.
DRV P.C.B.
PSM P.C.B.
JACK P.C.B.
N3
33 Ass'y
34 Ass'y
40 Ass'y
40-1
40-2
34-1
D1

Note: The cabinet assembly parts will not be supplied as repair parts.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13
14
Sliding Cover Ass'y
5-1
5-2
5-3
5-4
5-5
5-6
5-7
5-8 SX-GN3 only
SX-GN3 only
Technics
SP1
SP2
SP3
SP4
SP5
SP6
CPR P.C.B.
SW P.C.B.
CPL P.C.B.
LCD P.C.B.
CPC P.C.B.
FDCN P.C.B.
CPSL P.C.B.
MVOL P.C.B.
S1
MAIN P.C.B.
PSM P.C.B.
DRV P.C.B.
EJ II P.C.B.
JACK P.C.B.
CN P.C.B.
PKB P.C.B.
PA P.C.B. Ass'y
PSS P.C.B. Ass'y
ACP P.C.B.
EXP Pedal Ass'y
52-1
52-2
52-3
52-4
T1
T2
D1
40-1
40-2
34-1
Ass'y
SY-FD20 (Option)
[EK] [X] [XL] [XR] [XS] [XD] Areas
PC1
PC2 [X] Area only
PC3 [XD] Area only
N2
N3
N4
N5
N6
N7
N8
N9
N10
N11
N12
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N14
N15
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N43
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N46
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N48
N49
N50
N51
N52
N53
N54
N61

SX-GN3 CABINET & CHASSIS PARTS

	Ref. No.	Part No.	Description	Per/Set
		POWER SWITCH		
○	S1 ⚠	QSPG1003AA	Power Switch	1
		SPEAKERS		
	SP1, 2	EAS20PL255C	20cm, 8Ω	2
	SP3, 4	EAS65PH31A	6.5cm, 8Ω	2
	SP5, 6	EAS15S06A	6×13cm, 16Ω	2
		TRANSFORMERS		
○	T1 M XM MC ⚠	QTPG1P003A	Power Transformer, [M], [XM], [MC] only	1
○	T1 ⚠	QTPG1P002A	Power Transformer	1
○	T2 ⚠	QTPG1J001A	Power Transformer	1
		POWER CORD, PLUGS		
	PC1 M XM MC ⚠	SJAG22	AC Power Cord, [M], [XM], [MC] only	1
	PC1 XL XR ⚠	SJAG23	AC Power Cord, [XL], [XR] only	1
	PC1 EK XS XD ⚠	SJAG25	AC Power Cord, [EK], [XS], [XD] only	1
	PC1 ⚠	SJAG24	AC Power Cord, Others	1
	PC2 X ⚠	SJP5213-1	Attachment Plug, [X] only	1
	PC3 XD ⚠	SJPG1350A	Power Plug, [XD] only	1
		POWER INDICATOR		
	D1	LN29RP	LED, Power Indicator	1
		CABINET AND OTHERS		
○	1	QGAG2003AA	Clear Panel, Music Rack	1
○	2	QGAG1003AA	Ornament	1
	3	SBLG230B	Stay	2
○	4	QKQGA005AA	Top Cover Ass'y	1
	4-1	[SHRG9301A	Sleeve	2
○	5	QKQGF001AB	Sliding Cover Ass'y	1
○	5-1	┌QGKG0010AB	Ornament	1
	5-2	│SBEG30A	Lock	1
	5-3	│SBEG40A	Staple	1
	5-4	│SBHG6007-1	Hinge	3
	5-5	│SHRG9930A	Catch, Guide Rail	10
○	5-6	│QMFG1001AA	Felt	2
	5-7	│SHSG119	Felt	6
	5-8	└SGBG150A	Badge	1
	6	SBEG60A	Key	1
○	7	QGKG0002AA	Ornament	1
○	7 M XM	QGKG0002AB	Ornament	1
	8	SHSG1830A	Felt	2
	9	SGBG140A	Badge	1
○	10	QKQGZ019AA	Bracket	1
○	11	QGPG0001CD	Upper Control Panel	1
○	11 M XM	QGPG0001CF	Upper Control Panel	1
○	12	QKWG001AC	Display Cover Panel	1
○	13	QGPG0002CA	Lower Control Panel, Left	1
○	13 M XM	QGPG0002CC	Lower Control Panel, Left	1
○	14	QGPG0003AD	Lower Control Panel, Right	1
○	14 M XM	QGPG0003AC	Lower Control Panel, Right	1
○	15	QMFG4006BB	Felt	4
○	16	QMFG4004BB	Felt	1
○	17	QMFG4005BB	Felt	2
○	18	QMFG4011AA	Felt	1
	19	SHSG5810A	Felt	1
○	20	QMFG4007BB	Felt	1
○	21	QMFG4001AA	Felt	1
○	22	QMFG4002AA	Felt	1

(SX-GN3)

	Ref. No.	Part No.	Description	Per/Set
○	23	SBNG4060B	Knob, Tempo/Program	1
	24	SBNG7031A	Knob, Main Volume	1
	25	SBCG110B	Button, Power Switch	1
	26	SHRG9920A	Spacer	1
○	27	QGKG0007AA	Ornament, Keyboard	1
○	28	QGKG0008BB	Jack Panel	1
	29	SUWG3000A	Bracket	2
	30	SUWG3010A	Bracket	2
	31	SUWG3020A	Bracket	2
	32	SUWG3031A	Bracket	2
○	33	QEXG13004ZA	Cable with Bracket	1
○	34	QEXG13003ZA	Cable with Bracket	1
	34-1	[SHRG1160A	Bushing	2
○	35	QKSGE003AB	Front Panel	1
	36	SHSG3050A	Felt	1
	37	SMKG1583A	Jack Panel	1
	38	SBNG4010A	Knob, Mic Volume	1
	39	SHR401-1	Latch	2
	40	SXVG3031B	Knee Lever Ass'y	1
	40-1	┌SSLG1005A	Leaf Switch	1
	40-2	└SSHG1020A	Push Switch	1
	41	SGXG1100A	Ornament, Expression	1
	42	SHRG2120A	Foot	4
	43	SKEG7640A	Guide Rail	1
	44	SKEG7650A	Guide Rail	1
	45	SKEG7660A	Guide Rail	1
	46	SKEG7670A	Guide Rail	1
	47	SHSG3571A	Felt	2
	48	QGPG1004AA	Cover	1
	48 M XM	QGPG1004AB	Cover	1
	49	QMAG0008AA	Bracket	1
	50	SHRG1110A	Cord Clamper	1
	51	SHRG1120A	Cord Clamper	1
	52	SXVG5130A	Exprssion Pedal Ass'y	1
	52-1	┌XAMR55P	Lamp	1
	52-2	│RJS205ZA	Lamp Socket	1
	52-3	│SHGG908	Lamp Holding Rubber	1
	52-4	└SSHG14	Foot Switch	1
○	53	QKQGD001AB	Rear Board (Upper)	1
○	54 EK X XL XR XS XD	QKUG1001BB	Rear Board (Lower), [EK], [X], [XL], [XR], [XS], [XD] only	1
○	54	QKUG1001AB	Rear Board (Lower), Others	1
○	55	SGKG3190A	Label (VOLT ADJ.)	1
	56	SHGG8510A	Spacer	1
	57	SHRG1030A	Cord Band	1
	58	SHRGA9060A	Cord Clamper	2
	59	SUWG219	Binder	7
	60	SHRG9620A	Cord Clamper	1
		PEDAL KEYBOARD		
○	61	STBG1164A	Long Key (Brown)	8
	62	STBG2052A	Short Key (Black)	5
	65	SHSG4770A	Felt	1
○	66	QMRG2005AA	Insulator	1
	67	SHSG1600B	Felt	1
	68	SHSG1460A	Felt	13
	69	SUSG180A	Spring	13
	70	SHGG8130A	Rubber	13
	71	SHRG9240A	Spacer	13
		MANUAL KEYBOARD		
○	72	STBGA1160A	White Key (C & F Keys)	8
○	73	STBGA1170A	White Key (D Key)	4
○	74	STBGA1180A	White Key (E & B Keys)	8
○	75	STBGA1190A	White Key (G Key)	4
○	76	STBGA1200A	White Key (A Key)	4

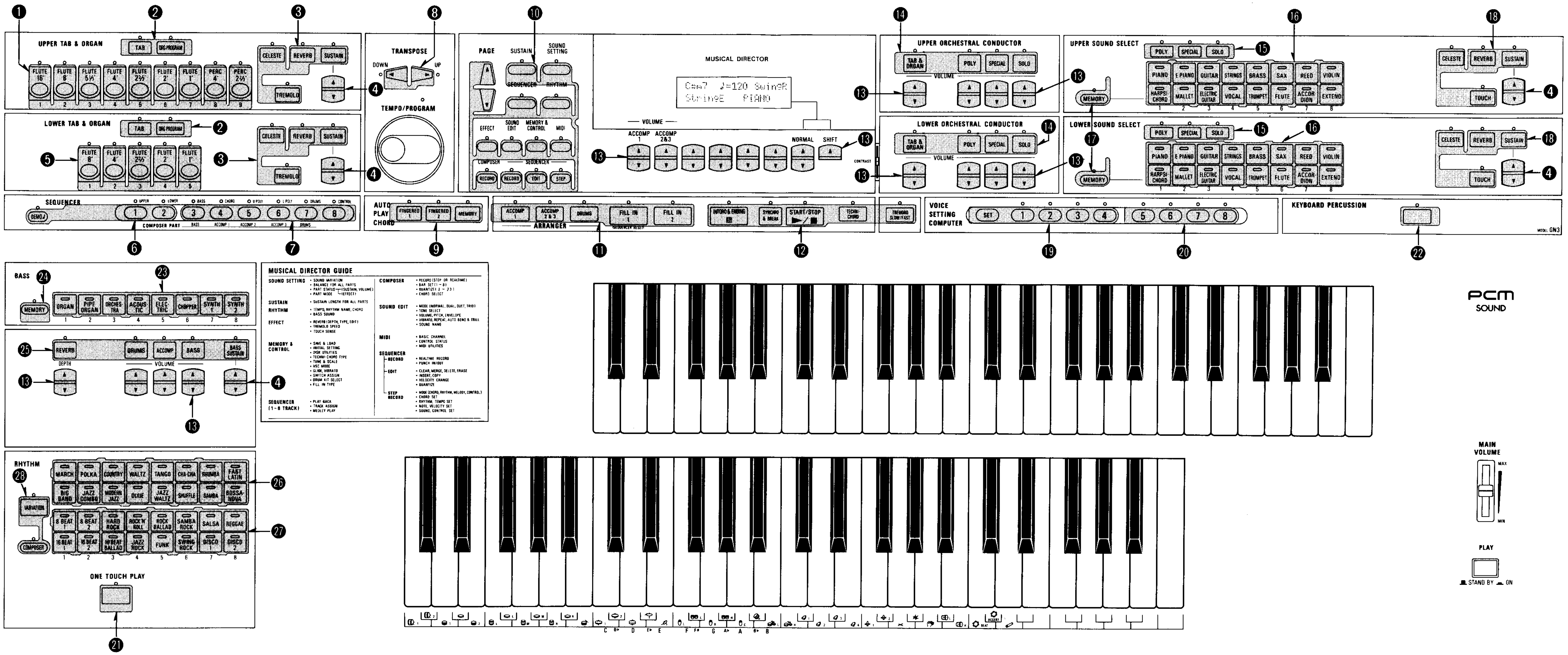
(SX-GN3)

Ref. No.	Part No.	Description	Per/Set
○ 77	STBGA1210A	White Key (Top Octave C Key)	1
○ 78	STBG2930A	Black Key	20
○ 79	STBG9420A	Key Support	3
○ 80	STBG9440A	Key Support	1
○ 81	QMBG001BA	Spring	49
82	SHGG9050A	Key Guide Rubber	49
○ 83	QMFG1005AA	Felt	1
○ 84	STBG9410A	P.C.B. Holder	3
○ 85	STBG9430A	P.C.B. Holder	1
○ 86	SSPG1A	Actuator	3
○ 87	SSPG2A	Actuator	1
○ 88	QMFG1006AB	Felt	1
○ 89	SHRGA5810A	Membrane Sheet	3
○ 90	SHRGA5820A	Membrane Sheet	1
BENCH			
91	SKZGC850A	Top Cover Ass'y	1
91-1	SBHG50B	Hinge	2
91-2	SBLG70A	Stay	1
○ 92	SKZGC471D	Leg	4
93	SBEG190A	Spanner	1
○ 94	SKZGC860C	Box	1
SCREW & WASHERS			
N2	XTS4+12A	Screw	20
N3	XTB35+12A	Screw	22
N4	XTWSG2	Screw with Washer	12
N5	SNEG2400A	Screw with Washer	2
N6	XTB4+12A	Screw	24
N7	XTW3+10Q	Screw	63
N8	XNS9	Nut	1
N9	XYN5+C10	Screw with Washer	6
N10	SNEG740A	Screw	2
N11	XTS3+6B	Screw	2
N12	XYN4+F40	Screw with Washer	1
N13	XTT4+16AFZ	Screw	2
N14	XTB4+14A	Screw	2
N15	XTW3+20Q	Screw	4
N16	XTB3+5C	Screw	15
N17	XTW3+8JFZ	Screw	1
N18	XTT4+10AFZ	Screw	3
N19	XTS35+12A	Screw	19
N20	XTS3+12A	Screw	3
N21	XTS3+10AFVC	Screw	6
N22	XTW3+10JFVC	Screw	5
N23	XTT35+10AFVC	Screw	12
N24	XTT4+16AFVC	Screw	6
N25	XTT4+30A	Screw	2
N26	XTB35+12A	Screw	4
N27	SNEG2270A	Screw with Washer	4
N28	SNEG770A	Washer	2
N29	SNE4021-1	Nut	1
N30	XNS12FZ	Nut	2
N31	XTN2+10FFX	Screw	1
N32	XYN3+C12	Screw with Washer	3
N33	XYN3+F16FZ	Screw with Washer	2
N34	XTB3+8BFVC	Screw	2
N35	XTB35+20A	Screw	14
N36	XYN4+F20FZ	Screw with Washer	10
N37	XTB35+14FVC	Screw	10
N38	XYN3+F20FZ	Screw with Washer	2
N39	XYN5+C25FZ	Screw with Washer	9
N40	SNEG150B	Washer	9
N41	XTB35+25A	Screw	8
N42	XTB3+14AFZ	Screw	4

(SX-GN3)

Ref. No.	Part No.	Description	Per/Set
N43	XTB3+6B	Screw	11
N44	XTT4+14A	Screw	23
N45	XNG5BS	Nut	13
N46	SNEG360A	Bolt	13
N47	XTV3+10G	Screw	1
N48	SNE499-1	Nut	8
N49	XTN26+6B	Screw	1
N50	XTV3+10C	Screw	2
N51	XYN4+F30	Screw with Washer	4
N52	XTT4+30AFVC	Screw	18
N53	XYN4+F10FVC	Screw with Washer	4
N54	XYN5+F30	Screw with Washer	3
N56	XTS3+14A	Screw	4
N57	XNH10G	Nut	4
N58	XWB10B	Washer	4
N59	XTW3+6J	Screw	12
N60	XTW3+10JFVC	Screw	28
N61	XTB35+14AFZ	Screw	2
N64, 65	XTT4+14AFVC	Screw	7
N66	XTB3+14AFVC	Screw	2

■ BUTTON



UPPER TAB & ORGAN
TAB
ORG PROGRAM
FLUTE 16'
FLUTE 8'
FLUTE 5⅓'
FLUTE 4'
FLUTE 2⅔'
FLUTE 2'
FLUTE 1'
PERC 4'
PERC 2⅔'
CELESTE
REVERB
SUSTAIN
TREMOLO
LOWER TAB & ORGAN
TRANSPOSE
DOWN
UP
TEMPO/PROGRAM
PAGE
SUSTAIN
SOUND SETTING
SEQUENCER
RHYTHM
EFFECT
SOUND EDIT
MEMORY & CONTROL
MIDI
COMPOSER
RECORD
EDIT
STEP
MUSICAL DIRECTOR
VOLUME
ACCOMP 1
ACCOMP 2&3
NORMAL
SHIFT
CONTRAST
UPPER ORCHESTRAL CONDUCTOR
LOWER ORCHESTRAL CONDUCTOR
TAB & ORGAN
POLY
SPECIAL
SOLO
UPPER SOUND SELECT
LOWER SOUND SELECT
PIANO
E.PIANO
GUITAR
STRINGS
BRASS
SAX
REED
VIOLIN
HARPSICHORD
MALLET
ELECTRIC GUITAR
VOCAL
TRUMPET
FLUTE
ACCORDION
EXTEND
MEMORY
TOUCH
SEQUENCER
DEMO
COMPOSER PART
AUTO PLAY CHORD
FINGERED 1
FINGERED 2
ARRANGER
DRUMS
FILL IN 1
FILL IN 2
INTRO & ENDING
SYNCHRO & BREAK
START/STOP
TECHNI CHORD
TREMOLO SLOW/FAST
VOICE SETTING COMPUTER
SET
KEYBOARD PERCUSSION
MODEL GN3
BASS
ORGAN
PIPE ORGAN
ORCHESTRA
ACOUSTIC
ELECTRIC
CHOPPER
SYNTH 1
SYNTH 2
MUSICAL DIRECTOR GUIDE
DEPTH
ACCOMP
BASS SUSTAIN
RHYTHM
VARIATION
MARCH
POLKA
COUNTRY
WALTZ
TANGO
CHA-CHA
RHUMBA
FAST LATIN
BIG BAND
JAZZ COMBO
MODERN JAZZ
DIXIE
JAZZ WALTZ
SHUFFLE
SAMBA
BOSSA NOVA
8 BEAT 1
8 BEAT 2
HARD ROCK
ROCK'N' ROLL
ROCK BALLAD
SAMBA ROCK
SALSA
REGGAE
16 BEAT 1
16 BEAT 2
16 BEAT BALLAD
JAZZ ROCK
FUNK
SWING ROCK
DISCO 1
DISCO 2
ONE TOUCH PLAY
PCM SOUND
MAIN VOLUME
MAX
MIN
PLAY
STAND BY ON
C C♯ D E♭ E F F♯ G A♭ A B♭ B
❶
❷
❸
❹
❺
❻
❼
❽
❾
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SX-GN3K BUTTON

Ref. No.	Part No.	Description	Per/Set
○ 1	QGUG1009AA01	Button	1
○ 2	QGUG1008AA01	Button	2
○ 3	QGUG1011AA02	Button	2
○ 4	QGUG1027AB01	Button	5
○ 5	QGUG1010BA01	Button	1
○ 6	QGUG1020BA01	Button	1
○ 7	QGUG1005AA02	Button	1
○ 8	QGUG1012AA01	Button	1
○ 9	QGUG1014AA01	Button	1
○ 10	QGUG1013AA01	Button	1
○ 11	QGUG1021AA01	Button	1
○ 12	QGUG1022AA01	Button	1
○ 13	QGUG1027AA01	Button	20
○ 14	QGUG1015BA01	Button	2
○ 15	QGUG1018BA01	Button	2
○ 16	QGUG1028CA01	Button	2
○ 17	QGUG1017AA01	Button	2
○ 18	QGUG1019BA01	Button	2

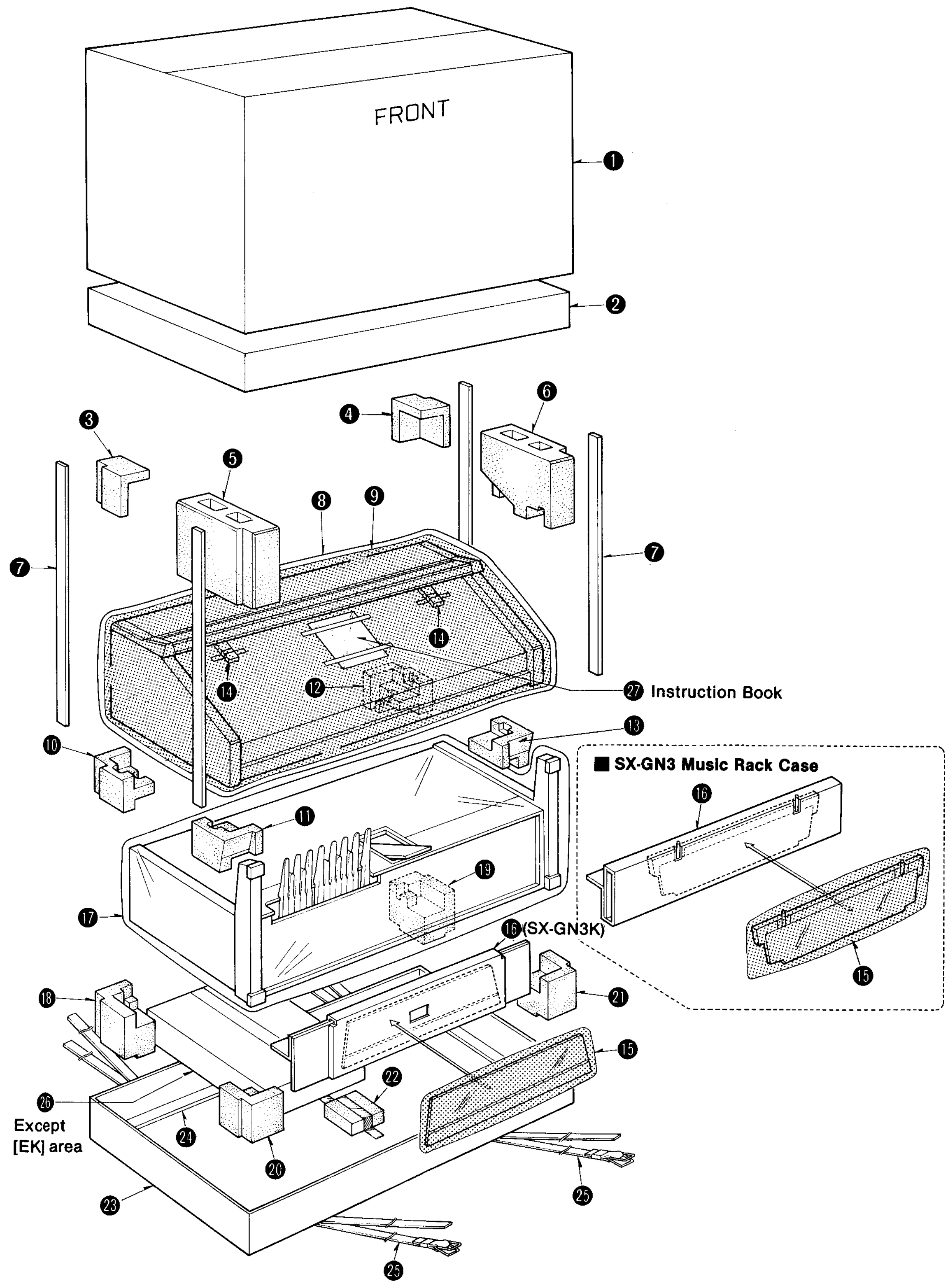
Ref. No.	Part No.	Description	Per/Set
○ 19	QGUG1023AA01	Button	1
○ 20	QGUG1016AA01	Button	1
○ 21	QGUG1001AA	Button	1
○ 22	QGUG1025AA	Button	1
○ 23	QGUG1029BA01	Button	1
○ 24	QGUG1007AA01	Button	1
○ 25	QGUG1006BA01	Button	1
○ 26	QGUG1029AA02	Button	1
○ 27	QGUG1029AA01	Button	1
○ 28	QGUG1003AA01	Button	1

SX-GN3 BUTTON

Ref. No.	Part No.	Description	Per/Set
○ 1	QGUG1009AA01	Button	1
○ 2	QGUG1008AA01	Button	2
○ 3	QGUG1011AA02	Button	2
○ 4	QGUG1027AB01	Button	5
○ 5	QGUG1010BA01	Button	1
○ 6	QGUG1020BA01	Button	1
○ 7	QGUG1005AA02	Button	1
○ 8	QGUG1012AA01	Button	1
○ 9	QGUG1014AA01	Button	1
○ 10	QGUG1013AA01	Button	1
○ 11	QGUG1021AA01	Button	1
○ 12	QGUG1022AA01	Button	1
○ 13	QGUG1027AA01	Button	23
○ 14	QGUG1015BA01	Button	2
○ 15	QGUG1018BA01	Button	2
○ 16	QGUG1028CA01	Button	2
○ 16 M XM	QGUG1028CB01	Button	2
○ 17	QGUG1017AA01	Button	2

Ref. No.	Part No.	Description	Per/Set
○ 18	QGUG1019BA01	Button	2
○ 19	QGUG1023AA01	Button	1
○ 20	QGUG1016AA01	Button	1
○ 21	QGUG1001AA	Button	1
○ 22	QGUG1025AA	Button	1
○ 23	QGUG1029BA01	Button	1
○ 23 M XM	QGUG1029BB01	Button	1
○ 24	QGUG1007AA01	Button	1
○ 25	QGUG1006BA01	Button	1
○ 26	QGUG1029AA02	Button	1
○ 26 M XM	QGUG1029AB02	Button	1
○ 27	QGUG1029AA01	Button	1
○ 27 M XM	QGUG1029AB01	Button	1
○ 28	QGUG1003AA01	Button	1

PACKING



SX-GN3K PACKING PARTS

Ref. No.	Part No.	Description	Per/Set
○ 1	QPGG0012AA	Carton Box	1
○ 2	QPGG0007AA	Top Case	1
○ 3	QPNG0020AA	Pad	1
○ 4	QPNG0021AA	Pad	1
○ 5	QPNG0018AA	Pad	1
○ 6	QPNG0019AA	Pad	1
○ 7	QPQG002AA	Prop	4
8	SPHG220A	Polyethylene Bag	1
9	SPHG620A	Protection Sheet	1
○ 10	QPNG0016AA	Pad	1
○ 11	QPNG0014AA	Pad	1
○ 12	QPNG0017AA	Pad	1
○ 13	QPNG0015AA	Pad	1
14	SPNG5161A	Spacer	2
15	SPHG2020A	Protection Sheet	1
○ 16	QPGG0005AA	Music Rack Case	1
17	SPHG770A	Polyethylene Bag	1
○ 18	QPNG0024AA	Pad	1
○ 19	QPNG0025AA	Pad	1
○ 20	QPNG0022AA	Pad	1
○ 21	QPNG0023AA	Pad	1
22	SPNG5749A	Pad	1
○ 23	QPGG0006AA	Bottom Case	1
○ 24	QPQG001AA	Frame	1
25	SPSG40A	Band	4
26	SPEG1167A	Packing Case, Bench (Except [EK])	1
INSTRUCTION BOOK			
○ 27 N	QQFGGN5KAA	Instruction Book, [N] only	1
○ 27 EN	QQFGGN5KBA	Instruction Book, [EN] only	1
○ 27 EK EP X XL XR XS XD	QQFGGN5KCA	Instruction Book, [EK], [EP], [X], [XL], [XR], [XS], [XD] only	1
○ 27 EZ EW EI EB EF EH	QQFGGN5KDA	Instruction Book, [EZ], [EW], [EI], [EB], [EF], [EH] only	1

SX-GN3 PACKING PARTS

Ref. No.	Part No.	Description	Per/Set
○ 1	QPGG0020AA	Carton Box	1
○ 2	QPGG0007AA	Top Case	1
○ 3	QPNG0020AA	Pad	1
○ 4	QPNG0021AA	Pad	1
○ 5	QPNG0037AA	Pad	1
○ 6	QPNG0038AA	Pad	1
○ 7	QPQG002AA	Prop	4
8	SPHG220A	Polyethylene Bag	1
9	SPHG620A	Protection Sheet	1
○ 10	QPNG0016AA	Pad	1
○ 11	QPNG0035AA	Pad	1
○ 12	QPNG0017AA	Pad	1
○ 13	QPNG0036AA	Pad	1
14	SPNG5161A	Spacer	2
15	SPHG2020A	Protection Sheet	1
○ 16	SPNG2024B	Music Rack Case	1
17	SPHG770A	Polyethylene Bag	1
○ 18	QPNG0024AA	Pad	1
○ 19	QPNG0025AA	Pad	1
○ 20	QPNG0022AA	Pad	1
○ 21	QPNG0023AA	Pad	1
22	SPNG5749A	Pad	1
○ 23	QPGG0006AA	Bottom Case	1
○ 24	QPQG001AA	Frame	1
25	SPSG40A	Band	4
26	SPEG1168B	Packing Case, Bench (Except [EK])	1
INSTRUCTION BOOK			
○ 27 M	QQFGGN5EA	Instruction Book, [M] only	1
○ 27 EN	QQFGGN5KBA	Instruction Book, [EN] only	1
○ 27 EK EP X XL XR XS MC XM XD	QQFGGN5KCA	Instruction Book, [EK], [EP], [X], [XL], [XR], [XS], [XD], [XM], [MC] only	1
○ 27 EZ EW EI EB EF EH	QQFGGN5KDA	Instruction Book, [EZ], [EW], [EI], [EB], [EF], [EH] only	1